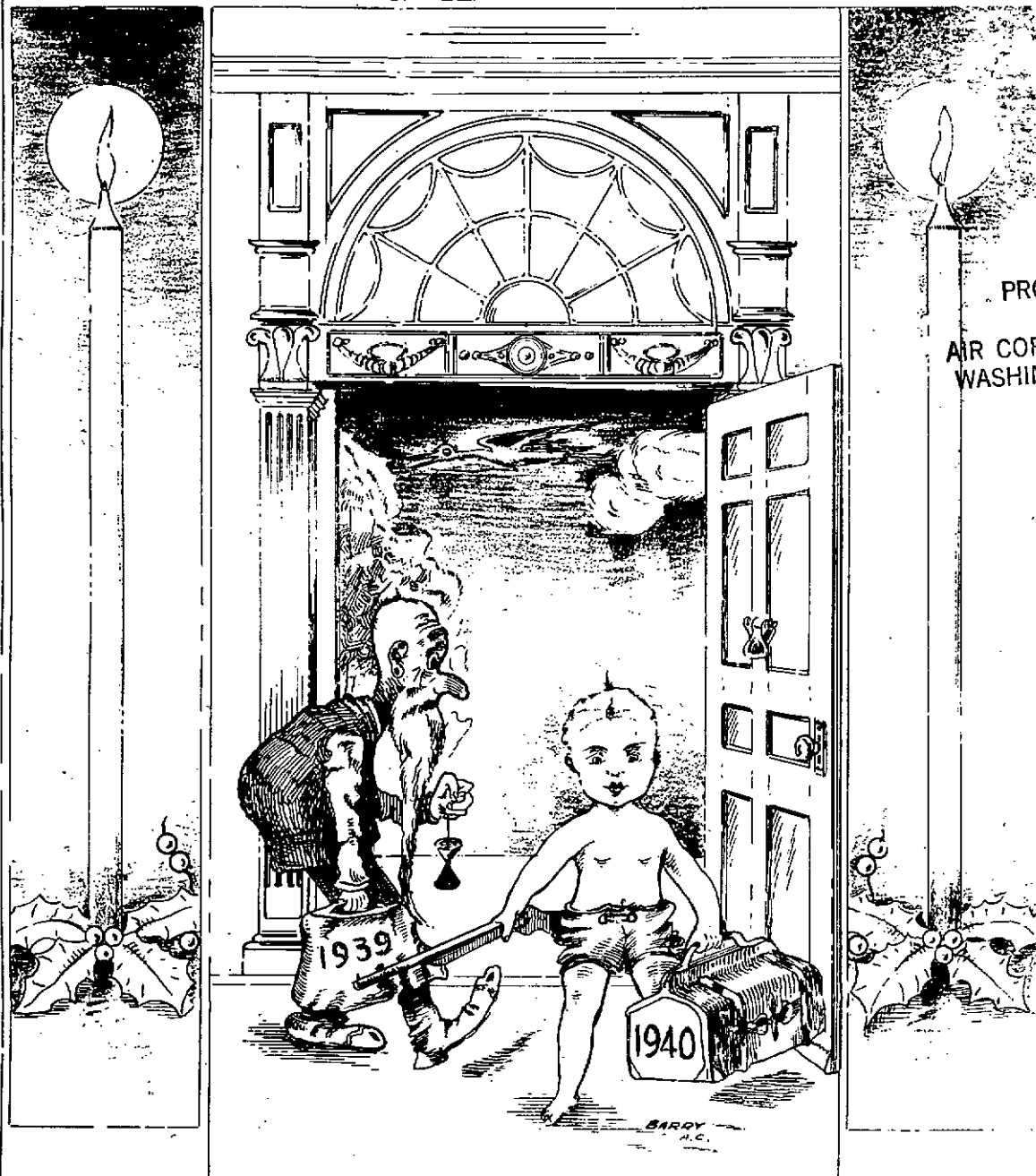


AIR
CORPS

NEW YEAR
GREETINGS

NEWS
LETTER



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The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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FORMATION OF NEW AIR CORPS UNITS

The Honorable Harry H. Woodring, Secretary of War, announced under date of December 28, 1939, the constitution of several new Air Corps units and the activation of several others now on the inactive list, effective February 1, 1940. The new units include Bombardment and Pursuit Groups for Puerto Rico, a Pursuit Group for the Panama Canal Zone, a Bombardment Group for Hawaii, and a Composite Group for Alaska, as well as a number of organizations for continental United States.

The new units constituted on the active list are two Bombardment Groups (Heavy); one Bombardment Group (Medium); one Bombardment Group (Light); four Pursuit Groups (Interceptor); one Composite Group; one Pursuit Squadron (Interceptor); five Base Squadrons and one Photographic Squadron.

Units on the inactive list which are to be activated are two Bombardment Groups (Medium), one Composite Group; one Bombardment Squadron (Medium); one Pursuit Squadron (Interceptor); two Reconnaissance Squadrons and two Observation Squadrons.

These new units will absorb a large part of the increased personnel of the expanded Air Corps and will be equipped with new airplanes recently purchased by the War Department, deliveries of which are now being made.

The new organizations, the stations at which they are being formed, and their permanent stations are given below:

The 25th and 29th Bombardment Groups (Heavy) are to be activated at Langley Field, Va., the 25th, comprising Headquarters and Headquarters Squadron, and the 10th, 12th and 35th Bombardment Squadrons, are to be stationed in Puerto Rico; and the 29th, comprising Headquarters and Headquarters Squadron and the 6th, 29th and 52nd Bombardment Squadrons, to be stationed at the Southeast Air Base, MacDill Field, Fla.

The 22nd Bombardment Group (Medium), comprising Headquarters and Headquarters Squadron (to be activated at Mitchel Field, N.Y.), and the 19th and 33rd Bombardment Squadrons (to be activated at Patterson Field, Ohio), is to be stationed in the Panama Canal Zone.

The 27th Bombardment Group (Light), comprising Headquarters and Headquarters Squadron, and the 15th, 16th and 17th Bombardment Squadrons, is to be activated at Barksdale Field, La., and stationed at that field.

The 31st Pursuit Group (Interceptor), consisting of Headquarters and Headquarters Squadron, and the 39th, 40th and 41st Pursuit Squadrons, is to be stationed at Mitchel Field, N.Y. The 41st Squadron is to be activated at Bolling Field, D.C., and the remaining units of this Group at Selfridge Field, Mich.

The 35th Pursuit Group (Interceptor), comprising Headquarters and Headquarters Squadron, and the 18th, 20th and 21st Pursuit Squadrons, is to be activated at Moffett Field, Calif., and stationed at that field.

The 36th Pursuit Group (Int.) is to be stationed in Puerto Rico. The Headquarters and Headquarters Squadron and the 22nd Pursuit Squadron of this Group are to be activated at Langley Field, Va., and the two other units of this Group, the 23rd and 32nd Squadrons, are to be activated at Kelly Field, Texas.

The 37th Pursuit Group (Interceptor), consisting of Headquarters Squadron, the 28th, 30th and 31st Pursuit Squadrons, is to be activated at Albrook Field, Panama Canal Zone, and stationed at that field.

The 28th Composite Group is to be stationed in Alaska, the Headquarters and Headquarters Squadron and the 36th Bombardment Squadron to be activated at March Field, Calif., and the 34th Pursuit Squadron (Interceptor) to be activated at Kelly Field, Texas.

The 43rd Pursuit Squadron (Interceptor) is to be activated at Albrook Field, Canal Zone, and stationed there.

The 19th Base Squadron (serving one Group), is to be activated at Hamilton Field, Calif., and stationed at McChord Field, Wash.

The 23rd Base Squadron (serving one Group), is to be activated at March Field, Calif., and stationed in Alaska.

The 24th Base Squadron (serving two Groups), is to be activated at Kelly Field, Texas, and stationed in Puerto Rico.

The 26th Base Squadron (serving one Group), is to be activated at Kelly Field, Texas, and stationed in Puerto Rico.

Group) is to be activated at Maxwell Field, Ala., and stationed at the Northeast Air Base (Westover Field, Mass.)

The 27th Base Squadron (serving one Group) is to be activated at Barksdale Field, La., and stationed at the Southeast Base (MacDill Field, Fla.)

The 1st Photographic Squadron is to be activated at Bolling Field, D.C., and stationed at that field.

The units on the inactive list which are to be activated are listed below, as follows:

11th Bombardment Group (Medium), comprising Headquarters and Headquarters Squadron, and the 14th and 42nd Bombardment Squadrons, is to be activated at Hickam Field, T.H., and stationed there at.

The 22nd Bombardment Group (Medium), comprising the 2nd Bombardment Squadron, is to be activated at Bolling Field, D.C., and stationed in the Panama Canal Department.

The 28th Composite Group, comprising the 37th Bombardment Squadron (Medium) is to be activated at Barksdale Field, La., and stationed in Alaska.

The 3rd Bombardment Squadron (Medium) is to be activated at France Field, Canal Zone, and stationed at Howard Field, Canal Zone.

The 78th Pursuit Squadron (Interceptor) is to be activated and stationed at Wheeler Field, T.H.

The 41st Reconnaissance Squadron (Light Reconnaissance) is to be activated at Langley Field, Va., and stationed at MacDill Field, Fla. (Southeast Base).

The 89th Reconnaissance Squadron (Medium Reconnaissance) is to be activated at March Field, Calif., and to be stationed at McChord Field, Wash.

The 39th Observation Squadron (Corps and Division) is to be activated and stationed at France Field, Canal Zone.

The 86th Observation Squadron (Corps and Division) is to be activated and stationed at Wheeler Field, T.H.

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THE FLYING CADET DRUM AND BUGLE CORPS

Organized at Randolph Field, Texas, on November 27, 1939, the Cadet Drum and Bugle Corps made its first appearance at the graduation retreat exercises held on December 17th. Lieut. J.R. Luper is in charge of the organization.

The Drum and Bugle Corps is composed of 15 Cadets, with Cadet J.F. Schirmer designated as leader. The Cadet Battalion feels that the organization is even more successful and valuable than anticipated at first. It has proved invaluable for ceremonies, Sunday parades, and Saturday reviews, etc., and has assisted in instilling a high morale and resulting high standard of efficiency in the Flying Cadet Battalion.

CREATION OF AN AIR DEFENSE COMMAND

The Secretary of War, the Hon. Harry H. Woodring, announced on December 20, 1939, that an important step toward the completion of comprehensive plans for the national defense will be taken in the near future by the War Department. In brief, an air defense command will be created which will include the coordinated control of antiaircraft units, squadrons of Pursuit planes, and the aircraft warning service of signal communications, all elements for the protection of an area against hostile air attack. The commander will be Brigadier General James E. Chaney, who was promoted to that rank on January 1, 1940.

At the present time, all of the mobile combat units of the Air Corps are concentrated in one organization known as the General Headquarters, or GHQ, Air Force. This command is divided into three wings, located respectively on the West Coast, the East Coast and the Gulf Coast. It includes offensive and defensive types of aircraft, Bombers, Attack and Pursuit planes, and Reconnaissance Squadrons. Our ground antiaircraft defense consists of some fixed antiaircraft artillery in strategic localities, but principally of mobile antiaircraft artillery regiments, now scattered throughout the United States at Army posts.

The creation of an air defense command will provide experience and the basis for future developments of this nature, in the control of both air and antiaircraft units, Interceptor-Pursuit Groups, antiaircraft regiments and Signal Corps units. The Interceptor-Pursuit Groups will provide the highly mobile long-range weapons for the purpose of meeting and defeating any hostile air attack threatening a particular area and, in cooperation with the antiaircraft artillery units, will furnish close-in defense for vital localities, whether for cities, manufacturing areas or for armies in the field. The Signal Corps communication units will provide the necessary aircraft warning service.

To facilitate training, it is intended initially to establish the first command of this nature in the north-eastern part of the United States, utilizing existing Army posts and air fields to maximum capacity. The new Northeast Air Base (Westover Field) will, upon its completion, become one of the more important elements of this organization. Meanwhile, existing air fields and posts must be utilized.

Since forces of several arms are involved, this command should be organized and developed by a specially qualified general officer charged with the task.

(Continued on Page 4)

LEGISLATORS VISIT AIR CORPS FIELDS

Wright Field

On Wednesday, December 13, 1939, at 11:30 a.m., Wright Field received a visit from six members of a larger Congressional group, which since early November had been on a tour of inspection of Army posts and stations in the United States and the Panama Canal Zone. The flight included stopovers in Guatemala and Mexico City. The Congressmen who came to Wright Field were:

Senator Elmer Thomas, Oklahoma;
Senator Harry H. Schwartz, Wyoming;
Representatives John J. Sparkman, 8th District of Alabama; Charles R. Clason, 2nd District of Massachusetts; Paul W. Shafer, 3rd District of Michigan, and Thomas E. Martin, 1st District of Iowa. Senator Thomas is Chairman of the Senate Subcommittee on Appropriations for the War Department; Senator Schwartz is a member of the Senate Military Affairs Committee; and Representatives Sparkman, Clason, Shafer and Martin are members of the House Military Affairs Committee.

The party, which had been accompanied on its trip by Major Arthur R. Wilson, General Staff Corps, and Major John E. Upston, Office Chief of the Air Corps, flight commander, arrived in two C-39 Douglas airplanes, piloted by Captains C.E. Culbertson, M.C. Woodbury, Lieuts. J.J. Roberts and K.A. Cavenah.

The visit at the Materiel Division was briefer than had at first been anticipated, and it was impossible for the Congressmen to inspect all the exhibits of experimental equipment which had been prepared. They were shown all construction projects, and were so interested by the developments viewed in the laboratories that they expressed a desire to return at a later date with a greater number of Military Affairs Committee members for a more thorough inspection.

Upon landing, the party was met by Lieut. Colonel Oliver P. Echols, Technical Executive and Assistant Chief of the Materiel Division, and Lieut. Col. L. T. Miller, Administrative Executive. General Brett, Chief of the Materiel Division, found it impossible to be in Dayton at the time.

The Congressmen spent the night in Dayton and were entertained at dinner by the Dayton Chamber of Commerce. They took off early the next morning for Washington.

San Antonio Air Depot, Texas

The Congressional delegation, headed by Senator Elmer Thomas, of Oklahoma, Chairman of the Senate Subcommittee on Appropriations for the War Department, and composed of 14 members of the Military Affairs Committees of the Senate and House, paid a visit to this Depot on Saturday afternoon, November 25th,

in the course of their inspection of Army posts in the United States and the Canal Zone, involving a 7,000-mile aerial tour. The legislators were particularly interested in new construction needs at the Depot. Members of the delegation, in addition to Senator Thomas, were Senators H.S. Truman, Sherman Minton, H.H. Schwartz, Chan Gurney, Representatives R.E. Thomason, D.D. Terry, J.M. Costello, Overton Brooks, J.J. Sparkman, C.R. Clason, P.W. Shafer, W.D. Byron and T.E. Martin.

The group was accompanied by Majors Wilson and Upston, Captains Culbertson and Woodbury, Lieuts. T.W. Rafferty, W.E. Davis, J.J. Roberts and K.A. Flagley, with six enlisted mechanics and radio operators.

During their stay in San Antonio, the members of the party were also accompanied by Representative Paul J. Kilday, of the 20th Texas Congressional District.

Chamute Field, Ill.

The Congressional inspection party, consisting of Senators Thomas and Schwartz, Representatives Clason, Sparkman, and Martin, arrived at Chamute Field on the morning of December 12th. The weather was threatening and, as no previous flight had been cancelled, the record was maintained by virtue of a somewhat curtailed visit.

Immediately upon landing, the visitors were met by field personnel and distinguished guests of the post from the surrounding communities. An inspection was made of the present Technical School and the new construction, after which the party motored to the Officers' Club for lunch.

During the luncheon, Colonel Davenport Johnson, commanding Chamute Field, in a brief address, welcomed the visitors and guests and voiced his appreciation over their presence. Senator Thomas, of Oklahoma, replied for the Congressional party, outlining the purpose of the visit, and concluded by congratulating the Air Corps on its splendid progress. He assured his listeners that the United States defense forces would not be the largest in the world, but the finest. Mr. Arthur C. Willard, President of the University of Illinois, spoke briefly on the University and stated that they were happy to pay their debt to the Government and, since his school maintained the largest R.O.T.C. unit in the nation, they would always cooperate to the fullest in the discharge of their obligations.

Congressmen William H. Wheat, of Rantoul, and Leslie Arends, of Melvin, Ill., met the visitors at Chamute Field and remained until their departure. Colonel Gerald C. Brant, A.C., flew to Lowry Field, Denver, Colo., met the party at that point and accompanied it

to Chanute Field via Scott Field.

All officers of Chanute Field attended the luncheon, and the following civilian guests were present, in addition to those previously mentioned: Dr. A.J. Janata and Dean M.L. Enger, of the University of Illinois; Mayor James I. Flynn, Messrs. C.E. Bowen, Hardin Boulware, W.H. Lee, Frank K. Robeson, Gordon Bilderback, J.A. McDermott and W.S. Hansen, of Champaign, Ill.; Mayor George Hurd, Messrs. Edward Lindsay and Harry Biegler, of Urbana, Ill.; Colonel S.S. Denney, Messrs. Leland Fowler, James F. Clark, Glenn Fultz, Chester Webber and W.F. Rogers, of Rantoul, Ill.

The visitors departed at 1:00 p.m., for Battle Creek, Mich. The balance of the tour will take the party to Wright and Bolling Fields; Schenectady and Albany, N.Y.; Picatinny Arsenal, and return to Bolling Field.

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CHANUTE FIELD PERSONNEL ON AIR TOUR

First Lieut. Glenn Thompson, Air Corps, of Chanute Field, and Mr. Richard W. Faubion, Trade Test Department, Air Corps Technical School, completed a tour of Air Corps stations throughout the United States in order to institute a system of coordination at Air Corps stations authorized to conduct Alpha Test and classify enlisted men for enrollment in courses at the Air Corps Technical Schools.

Some confusion has heretofore existed in the conduct of these examinations, and the several stations have maintained varying standards in arriving at the final grades and classification of prospective students.

Lieut. Thompson and Mr. Faubion spent approximately one month on their air tour, visiting the following mentioned:

Air Corps fields in the order given: Selfridge, Mitchel, Bolling, Langley, Maxwell, Barksdale, Randolph, March, Moffett, Hamilton, Lowry and return to Chanute Field on December 13, 1939.

Lieut. Thompson is on duty in the Office of the Commandant, Air Corps Technical Schools.

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ERRAND OF MERCY ENDS IN DISASTER

A mercy flying mission, attempted by two pilots of Albrook Field, Canal Zone, accompanied by two medical officers, almost ended in disaster when the Grumman Amphibian in which they were riding nosed over on a water landing and sank in about 15 feet of water.

First Lieuts. T.C. Darcy and John R. Kelly, Air Corps, were pilot and copilot, respectively, of the Amphibian, the medical officers being Captains L.E. Griffis, of Albrook Field, and E.F. Austin, of Quarry Heights. The engineer was Corporal J.S. Kouba, of the

74th Bombardment Squadron.

The flight departed on December 12th for the San Blas Islands, on the Atlantic coast, for the purpose of treating several cases of illnesses reported among the San Blas Indians of Tigre Island.

Officers on the flight reported that a landing was attempted in rough water, that the bow of the plane caved in and that she sank.

Cuts and bruises were suffered by several men on the flight, but no serious injuries were reported. It was necessary for the men to remain at the San Blas Islands overnight. They returned in another Amphibian the following day, same being piloted by Lieut. Col. Gilkeson, commanding the 16th Pursuit Group, and Captain R.E. Randall, Group Operations Officer.

Two Navy boats went to the scene of the crash and an attempt was made to raise the airplane from the water.

Best comment on the trip was noted in the Form 1, filled out by Lieut. Darcy. With the plane in 15 feet of water, he entered on the back of the form -- "Needs Major Overhaul."

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Creation of an Air Defense Command (Continued from Page 2)

training of both ground and air units, and with the perfection of the coordination necessary to defend an area against air attack.

Brigadier General James E. Chaney, who prior to January 1, 1940, held the rank of Colonel and commanded Mitchel Field, N.Y., and who was selected for this important duty, is an officer of outstanding record and reputation, a graduate of the Army War College, an ex-member of the War Department General Staff, and more recently the senior staff officer who accompanied General George C. Marshall on the good will mission to Brazil of May and June, 1939.

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CHINESE OFFICERS OBSERVE TRAINING

Training methods employed at Randolph Field, Texas, were observed for a ten-day period by two officers of the Republic of China, Lieut. Colonel Chiao Dawn Chiang and Lieut. Wego Chiang. They were accompanied by Colonel C.L. Chennault, former Air Corps officer, now serving as aviation advisor to the Chinese Government.

Following their stay at Randolph Field, the two Chinese officers were scheduled to go to Kelly Field, Texas, for a similar period of observation, and then to the West Coast on an inspection tour of aircraft factories and civil airdromes.

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V-8323, A.C. 1000

Captain William T. Coleman, Air Corps Representative at the plant of the Bell Aircraft Corporation, Buffalo, New York, submitted the article given below in the belief that its publication in the News Letter might result in a comparative discourse between present-day airplanes and maintenance difficulties and the old type aircraft which formed the basis of our present-day inspection system.

The News Letter particularly welcomes articles along the line such as suggested by Captain Coleman. His contribution reads as follows:

During the course of some research study the undersigned came across a rather interesting book entitled "Military Aeroplanes" by Grover C. Loening, edited in the year 1918. An extract from this book, which might prove of interest in general to the pilots and maintenance crews of today's modern fighting aircraft, is as follows:

1. UPKEEP.

An aeroplane should really be kept in shape like a yacht, all parts polished and cleaned and oiled, with a very definite effort on the part of the crew to have everything spick and span. Particularly should oil be cleaned off of the wings and of wooden parts, as it so readily tends to rot them. Not only is this work desirable for looks, but it is a systematic way to inspect for flaws.

2. INSPECTION.

Once in the air, if nothing is wrong with the aeroplane, the flyer is absolute master of his own destiny.

On the contrary, if there is something wrong, he cannot "stop by the roadside and fix it".

So inspection of an aeroplane is of the very greatest fundamental importance and should never be neglected.

In fact, a good pilot, regardless of any foolish criticisms of "cold feet" on the part of less sensible rivals, will examine his machine carefully every time before going up, taking particular care if he has a passenger. And in addition, in the proper "esprit de corps" of flying, he will take no offense if his passenger does likewise to assure himself.

Because there is really no "come back" to something wrong with an aeroplane, and where there are unfortunately still so many little fittings and "gadgets", it is very wise to acquire this point of view from the outset.

In general, a quick, thorough inspection covers the following vital points:

Is the motor wiring and switch correct? J.A.

Does the throttle work properly? Is it loose or worn anywhere?
Is the propeller locked on?
Is there water in the radiator, oil and gas in the tanks?
Does the gas tank hold its air pressure?
Are the controls all connected up to work properly? Is there any unlooked for friction or lack of alignment?
Are there any loose bolts or unsafetied turnbuckles?
Particularly are the wing pins at the body joint properly locked?
Is the motor hood fastened down? And the rear fuselage cover?
The tail - is it properly fastened down?
Is anything going to jam a pulley or a control? Is your luggage or military load properly fastened in?
Is your safety belt really safe?
Have you a fire extinguisher handy?
Is there grease on the wheels?
Are the wheels held by the pins from slipping off the axle?
Run your motor a few minutes to see that it really "motes".
Take a good look around the field for wind direction and other aeroplanes!

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RETREAT PARADE TO BECOME PART OF CADET TRADITION.

In the Flying Cadet Quadrangle at Randolph Field, Texas, a retreat parade was held on Sunday afternoon, December 18th.

Patterned on the Corps of Cadets at the United States Military Academy at West Point, the Flying Cadets went their "brothers in grey" one better by coming up with their own drum and bugle corps.

This, the first in a series of parades to be held during the incumbency of each class to be trained at Randolph Field, is planned to permit friends of cadets and visitors an opportunity to view the Battalion. Guides were stationed at various points throughout the field to direct visitors to the Cadet Quadrangle.

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Flying Cadet Class 40-A, numbering 227 students, departed from Randolph Field on December 19th for Kelly Field, Texas, the Advanced Flying School, on the last leg of their journey, which will terminate with the Cadets receiving their wings.

This class, the largest ever to be graduated from the Primary School at Randolph Field, was also the first to be enrolled at the "City of Wings" from the Civilian Elementary Schools, under the Air Corps Expansion Program.

NAVIGATION INSTRUCTION IN 5TH BOMBARDMENT GROUP

Dead Reckoning and Celestial Navigation will hold no secrets from the 5th Bombardment Group, Hickam Field, T.H., in the future, as a result of the Air Navigation School, launched on November 1, 1939, with 1st Lieuts. Hugh F. McCaffery, and Paul C. Ashworth, of the 4th Reconnaissance and 31st Bombardment Squadrons, respectively, as instructors. The first class, totaling twelve officers, ten of whom are from the 5th Bombardment Group, completed their basic classroom work and are now flying navigation problems with marked success. As now contemplated, the course will last approximately three months and will consist of a total of 255 hours' classroom work and 70 hours' air work. A further breakdown of this time shows:

Dead Reckoning:	110 hours' classroom,
	30 hours' air.
Celestial:	145 hours' classroom,
	40 hours' air.

The school operates five days a week, Monday to Friday, inclusive, the hours being from 8:00 a.m., to 3:00 p.m., save on Wednesday, when class is dismissed at 12:00 noon. Flying is done in the afternoons.

"The school has received excellent cooperation from all agencies", Lieut. McCaffery reports, adding that "the Post Technical Library has furnished all the texts and equipment necessary, and upon receipt of the drift sights now on requisition, the school will be completely equipped."

"Continuation of the good weather, coupled with the permanently available wide expanses of open sea devoid of check points, should result in a fine crop of navigators."

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BOMBARDMENT INSTRUCTION FOR ENLISTED MEN

The ancient belief that only Air Corps Pilots make good bombardiers stands a fair chance of being thrown into the discard, if the final results obtained from the Enlisted Bombardiers' School, now being conducted by the 5th Bombardment Group, Hickam Field, T.H., are anything like present indications. November 1, 1939, saw the opening of the class of 28 carefully selected enlisted men from the squadrons of the Group, under the personal supervision of 1st Lieut. Arno H. Luehman, Air Corps, Assistant Group Operations Officer. Theory of bombing, ballistics, and operation of technical equipment constitute the 14 hours of classroom

instruction, followed by $7\frac{1}{2}$ hours of bombsight operation on the ground, on completion of which $2\frac{1}{2}$ hours of air tracking missions and 30 hours of actual bombing missions, during which each student drops a total of 60 bombs, complete the course. All students at this writing have completed the ground instruction and have progressed to air tracking missions, Lieut. Luehman reports. Weather permitting, the course was scheduled to be completed on December 15, 1939.

While the proficiency of bombardment units in the destruction of ground targets by means of projectiles dropped from aircraft has progressed by leaps and bounds since the World War, the defense of bombardment formation from attack by other aircraft has been somewhat slighted. Despite the axiom that the best defense is a vigorous offense, there is no discounting the fact that a determined enemy Pursuit organization, once in contact with our Bombers, can cause serious discomfiture to individual aircraft, and at least prevent a few Bombers from repeating the attack some other day.

With this in mind, the 5th Bombardment Group has been conducting a mass gunnery exercise, the object of which is to answer the following questions:

a. What types of formations permit the maximum concentration of controlled fire over all possible avenues of approach of Pursuit aircraft?

b. What are the best means of fire control?

c. What are the probabilities of obtaining hits on Pursuit aircraft from ranges up to 1000 feet?

To obtain the above answers, the 23d Provisional Squadron, consisting of all units of this Group, under command of Captain A.V.P. Anderson, Jr., was formed for the period of the exercise. A special allotment of 100,000 rounds of ammunition was furnished for the test by the Chief of the Air Corps. When the test is completed, a total of 11 missions will have been flown, involving firing on from one to three towed sleeves by formation of from three to nine airplanes from all possible angles and dispositions. For purposes of comparison, and because of the difficulty of simulating attacking aircraft by use of a towed sleeve, the last two missions will involve attacks (Camera Gun) on the Bombardment formations by units of the 18th Pursuit Group, Wheeler Field, T.H. "It is believed", says the News Letter Correspondent, "that the mass of data obtained, when carefully compiled and analyzed on completion of the test, will reveal some very illuminating facts regarding our present defensive equipment and will furnish the basis for further improvements in connection therewith."

V-8323, A.C.

RETRACTABLE LANDING GEAR

By the Materiel Division Correspondent

Part II

When a designer starts work on the retractable landing gear for a new type of airplane, he knows that he can devise a mechanism which will retract in any direction. He has learned much from nature's solution as seen in birds - backward retraction of the leg against the body - but in the early days some of the retractable gears did not approach nature's reliability as evidenced occasionally in the headlines announcing that another gear had jammed in the retracted position and the pilot successfully had essayed a belly landing.

Essentially the designer proceeds as follows:

1. The plans furnish information on what the landing speed will be, whether a nose or tail wheel will be used, and the gross weight. From these the needed calculations can be made of the braking capacity needed. The braking capacity dictates the size of the wheel needed to house the brake. From the size of the wheel and the gross weight, a tire is indicated dependent upon whether a soft, medium, or high-pressure tire is required.

2. The necessary clearances govern the length of the landing gear. The propellers must clear the ground by nine inches. The structural clearances of the fuselage or any loads suspended beneath it such as bombs, smoke or gas tanks, as well as the clearances of the flaps in the down position, are calculated.

3. The over-all size of the landing gear assembly can now be estimated.

4. The designer now starts to look for a location to house the gear in the retracted position, hoping to find a place into which it can be fully retracted. He weighs each consideration: Retraction into the fuselage usurps extremely valuable space near the center of gravity. It must be used sparingly. For pilot, cargo, gas tank, bomb, or camera space comes first.

Retraction into the thick sections of the wings is usually an ideal answer in the low-wing monoplane, because this section generally will completely house the short landing gear structure of this type. Also, this eliminates the necessity of cutting holes in a monocoque fuselage.

Retraction into the outboard engine nacelles of multi-engine airplanes solves the problem of getting the larger wheels of the heavier airplanes into the thick section of the wing. This is a very efficient installation, as little

fairing is required, and a wide tread which gives lateral stability is automatically attained.

5. He then provides the method of moving the landing gear assembly into the space selected.

6. The power unit to actuate the system is selected. Thus, if the airplane already has a hydraulic system, the landing gear system would be tapped into it, and the secondary system would logically be a hand pump hooked onto the hydraulic power system.

In simplest form, retraction is accomplished by rotating the landing gear as a unit about a pivot point on its upper end where it joins the airplane structure. Auxiliary brace members of the gear are displaced from their normal extended position to a secondary position, thereby causing movement of their pivoted ends and resultant movement of the main landing gear structure to the retracted position. In special cases, ingenious devices must be originated when an eccentric movement of the landing gear is required to manipulate it into the space available for housing it.

Whether retraction is accomplished into the fuselage, thick sections of the wings, outboard engine nacelles or into fairing on the structure, the designer's sole objective is to reduce greatly overall air resistance and so secure returns in greater speed and lower fuel consumption. The Air Corps requires that the gear raise to retracted position in 20 seconds; and that it lower and lock in landing position in 15 seconds. Requirement of the Civil Aeronautics Authority is up in 60 seconds, down in 30 seconds.

The visual indicators, which inform the pilot whether the wheels are up or down, sometimes had disadvantages in that they were difficult to read when flying into the sun, or had to be checked at two or more points, or did not indicate intermediate positions of the wheels. The latest type of indicators at Wright Field, which will be installed on all airplanes now in production, tells the pilot everything he must know at a glance. A single dial face mounted on the instrument board shows a small airplane and two pin-point lights. As wheels are raised or lowered, the wheels on the small airplane follow the same movement, so that intermediate positions are shown precisely at any time. The two pin-point lights are actuated by switches which close only after the lock-pins have locked the wheels in landing

positions. Supplementing the visual position indicator and signal lights, is a warning device (only one per airplane is permitted) actuated by means of the engine throttle.

Continuous research is conducted on fluids for hydraulic systems. The ultimate aim of this research is to find one fluid which will not boil away at temperatures up to 160° F., nor congeal at any temperature down to -40° F. or lower. As rapidly as possible the rubber and synthetic packings in hydraulic systems are being replaced by metal-seated valves and lap fits.

A principal advantage of the nose wheel is that greater braking force can be applied without nosing the plane over. To capitalize on this feature, dual brake installations are being developed to provide larger braking capacity. "Dual seal" inner tubes, which trap air in two compartments for greater safety, are being developed for nose-wheels. Studies are being made to improve the fit of tires to rims to prevent slipping when greater braking forces are applied. Static and dynamic balance of tires and wheels are getting considerable attention, with the objective of eliminating the detrimental vibrations often set up just after take-off when the wheels are spinning free. At present, pilots control this vibration by applying the brakes just after take-off.

LOWRY FIELD'S BOMBING RANGE

The bombing range, located about 6 miles southeast of Lowry Field, is in constant use by the Armament Department of the Denver Branch of the Air Corps Technical School. A great many live bombs and dummy bombs and thousands of rounds of ammunition are being fired daily on this immense range, which is approximately 100 square miles in extent.

The News Letter Correspondent believes that in the near future the bombing range area will be cross-lined in red on all airways maps as a prohibited area, anticipating that the bombing range will be used constantly and the dropping of live bombs or firing of machine guns will create a great hazard to aircraft which might venture across this restricted area.

Lowry Field's permanent personnel was increased by the transfer of 30 enlisted men, who in the past have been carried on detached service from their parent organizations, and now become permanent instructors in the three departments of the Denver Branch of the Air Corps Technical School.

RESERVE OFFICERS "BONING" FOR EXAMINATION

Reserve officers at Albrook Field, O.Z., are attending two classes daily, each lasting one hour, in preparation for the examination for permanent commission to be held early in January.

The classes are in Navigation and Engines, and are held in the Operations Office of the 29th Pursuit Squadron from 2 to 4 p.m. daily, under the direction of 1st Lieut. Robert D. Capen; Navigation is taught by 2nd Lieut. John Hester; and engines by 2nd Lieut. Clinton Wasem.

Officers attending the classes include 2d Lieuts. John P. Breckenridge, H. Von Tungeln, Paul M. Brewer, Albert A. Cory, J. Garrett Jackson, Robert Baeseler, M.P. Camp, John B. Henry, Jr., James D. Mayden, R.B. Mueller, Ralph Pusey, K.L. Riddle, J.C. Smith, W.E. Stinson, W.H. Swanson, Leon W. Gray and W. Weltman.

ACTIVITIES OF FLYING CADET TRAVELING BOARD

The Traveling Flying Cadet Examining Board of the Ninth Corps Area, of which Major E.E. Alder is president, will make its headquarters at Grand Central Flying School, Glendale, Calif., site of one of the Training Detachments, for two weeks beginning January 20th.

During this time, the Board will sit at the University of Southern California, University of California at Los Angeles, and Pomona College.

An "Army Aviation Day" will be staged the day the Board arrives, to call public attention to the recruiting campaign, which already is receiving considerable notice. One Los Angeles newspaper devoted nearly a full page to pictures and stories about the Cadet Board's activities.

CONGRESSMEN VISIT GLENDALE FLYING SCHOOL

The Congressional Committee of 18 senators and representatives which has been touring the Army establishments of the United States, Central America and Panama, were the first to see the Flying Cadets at Grand Central Flying School, Glendale, Calif., in their new uniforms.

The resplendent uniforms, just completed the previous day, feature a deep blue zipper blouse with shoulder insignia of brilliant red and blue, and gleaming gold. Lighter blue trousers and flight cap are worn with it.

WRIGHT FIELD OFFICER AUTHOR OF BOOK
By the Materiel Division Correspondent

Recently received from the Williams and Wilkins Company, Baltimore, is a new book, "Principles and Practice of Aviation Medicine", by Capt. Harry G. Armstrong, B.S., M.D., Director of the Aero Medical Research Laboratory of the Materiel Division. Neatly bound in blue cloth with gold lettering, the book contains more than 400 pages of, for the most part, new and previously unpublished material. Within the covers it has been Captain Armstrong's purpose to present everything a flight surgeon must know about selection and care of the flyer; a modern basis for the investigation of the effect of flight on man, physiologically and psychologically; evaluation of the existing remedies for adverse conditions; and the further development of corrective measures. The medical terminology is reduced to a minimum, consistent with the scientific nature of the book, and aircraft designers, operators, and pilots will find information they can readily absorb and that will be invaluable to them for the accomplishment of further advance of safety in aviation.

The book, Captain Armstrong says, has been prepared primarily as a textbook for students and as a reference work for those actively engaged in the practice of aviation medicine. Of the latter, including medical examiners for the Civil Aeronautics Authority, there are at present approximately a thousand in the United States.

More than one-fourth of the material is devoted to the result of original research performed by Captain Armstrong and his staff in the Laboratory at Wright Field. Historically, the book is also of value, and Captain Armstrong discusses among the works of early scientists that of Dr. Paul Bert, who in 1878 discovered the fact that balloonists ascending to high altitudes were affected by lack of oxygen, and undertook to solve the problem.

Captain Armstrong's first intention was merely to collect and classify for ready reference all available existing aero medical information produced in this country and Europe. Much of this was isolated in medical reports and papers not easily obtainable by individuals.

As his work progressed, however, the need for presenting new material along with that already in existence caused him to change the pattern of his work from a lengthy report for Air Corps research purposes to a book. The collecting of material extended over a period

of four years, two of them having been given to the preparation of the book.

The only other general textbook on aviation medicine to be written in this country was that prepared by Colonel Louis H. Bauer, of the Bureau of Air Commerce, Medical Section, in 1926, and while still of definite value, it was published before many recent discoveries had been brought to light.

Captain Armstrong came to Wright Field on September 15, 1934, to organize the Aero Medical Research Laboratory, the only one of its kind in the country. Interest in aviation medical research arose during the World War period, and until 1920, when it was discontinued, there had existed at Mineola, Long Island, an Air Service medical research laboratory. The extremely high speeds and great altitudes characteristic of modern airplanes in recent times, however, brought back sharply the need for study of the physiological reaction of flight upon pilots. The "blacking out" experience in high speed turns was one of many evidences of such need.

During the period of Captain Armstrong's directorship, many valuable experiments have been accomplished. In this work he has never hesitated to take his turn as the guinea pig, when human reactions were sought. His work has won wide recognition for his oxygen researches. Scientists from many other laboratories come to consult him upon his own and related work. Recently he was honored by election to the first vice-presidency of the Aero Medical Association of the United States.

Since statistics show that nearly 2,000,000 people in the United States are taking to the air each year and since the health and comfort of each deserve consideration, the new book is bound to prove an extremely valuable one in its field.

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RETIREMENT OF MASTER SERGEANT PETERS

Master Sergeant Frank A. Peters, of the 63rd School Squadron, Kelly Field, Texas, has been placed on the retired list, effective December 31, 1939. Entering the Army in March, 1911, Sergeant Peters has served overseas during the War, a tour of duty in the Philippines, and on the West Coast. From 1919 to 1923, he was an instructor in military tactics at the University of Washington. He has been stationed in San Antonio since 1926, joining the 63rd School Squadron at Kelly Field three years ago.

V-8323, A.C.

73D BOMBARDMENT SQUADRON BEGINS NAVIGATION CLASS

Now that the 17th Bombardment Group, March Field, Calif., completed its dead reckoning navigation school, it falls to the lot of individual squadrons to further that training by conducting similar schools within their organizations.

The 73d Squadron has added four new names to its list of official dead reckoning navigators as a result of the completed course of instruction by the group, namely, 1st Lts. Aaron W. Tyer, Joseph Brier; 2d Lts. Murray A. Bywater and Victor L. Anderson.

In cooperation with the Group's future training program, the 73d just commenced its dead reckoning class of eight officers. It is estimated that in approximately six weeks' time these officers should complete the entire course, both ground and practical navigation, and receive their diplomas as recognized navigators in dead reckoning.

The officers taking the prescribed course of instruction include 2d Lieuts. A. C. Carlson, F. B. Gallager, C. J. Heflin, G. C. Leland, R. S. Mason, W. G. Thornbrough, D. S. Dunlap, J. G. Schneider. Lt. M. A. Bywater is designated as instructor.

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AIR CORPS ENLISTED MEN ACT PROMPTLY AND SAVE MAN'S LIFE

Two men of the 19th Pursuit Squadron, Wheeler Field, T. H., have been the recipients of letters of thanks and commendation from several sources since the evening of September 2, 1939. On that particular evening, Corporal Lloyd D. McKenzie and Private, First Class, Manning F. Ford, were engaged in repairing their automobile on the Kamehameha Highway, near Aiea, when another car, driven by Richard A. Girton, of Honolulu, crashed into a heavy wooden retaining fence. The two enlisted men ably took charge of the situation by extricating Mr. Girton and applying first aid to his smashed leg. Doctor Richard J. Mansfield pointed out that the immediate first aid applied by the two men saved the life of Mr. Girton who would otherwise have bled to death. The Service can well be proud of the quick and intelligent action of these two men. Cpl. McKenzie is a clerk in the Squadron's Headquarters Section, and Pfc. Ford is an AM, 2d Class, in the Squadron's Engineering Section.

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Sixty-seven experienced mechanics and clerks from Kelly Field were among the first group to be transferred recently from that field to March Field, Calif., as part of the Air Corps Expansion Program.

BROOKS FIELD ONCE MORE A FLYING SCHOOL

Brooks Field, Texas, recently made a sub-post to Kelly Field, is rapidly preparing for the influx of its first group of Flying Cadets since 1931, when it became the home of the 12th Observation Group after primary training activities were transferred to the newly-opened Randolph Field in that year.

With the Air Corps expansion in full swing, Brooks Field will again harbor Air Corps student fliers, who will be in their advanced training period on arrival there. Due to the extremely large classes training under the expansion program, the Advanced Flying School, in addition to the four sections at Kelly Field, will have a fifth section in training at Brooks Field, where Colonel E. A. Lohman, Assistant Commandant of the Air Corps Advanced Flying School, is now in command. Captain L. H. Tull, formerly Assistant Supply Officer at Kelly Field, now heads Air Corps Supply at Brooks Field, with 1st Lieut. R. E. Ellsworth being transferred to Brooks Field as the new Adjutant of that post.

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KELLY FIELD GATES UNDER GUARD

Greatly increased activities at Kelly Field, Texas, incident to the Air Corps Expansion Program, have resulted in a complete revision of the police and traffic system at the field. The vast amount of construction under way on the post, the increase in number of automobile-owning personnel, and the constantly growing interest of the public in Air Corps training have swollen the traffic problem until drastic steps have become necessary to reduce the congestion. Only two gates to the field are now open, and vehicles and individuals must now be provided with the proper permits to enter and leave the post.

Guard shelters have been built, and guard is maintained on a twenty-four hour basis at these gates.

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CONSTRUCTION UNDER WAY AT KELLY FIELD

New buildings are springing up like mushrooms at Kelly Field, where evidence of the increased activities is rapidly taking shape in the form of new hangars, barracks, officers' quarters, and office buildings. Several of the new homes for officers, started July 1, 1938, are practically completed, while the large cadet barracks building is well under way. Overshadowing all the others in size, however, is the huge new hangar just taking shape, with the skeleton framework giving an idea of the immense structure being erected. When completed, the building will be about 100 feet high, with a floor area 300 by 375 feet.

MATERIEL DIVISION ENGINEERS USE REFRIGERATED WIND TUNNEL FOR RESEARCH ON DE-ICING EQUIPMENT

(Second of two articles on De-Icing).

Materiel Division engineers, through the courtesy of the B.F. Goodrich Company, are permitted to use the refrigerated wind tunnel in Akron, Ohio.

This is a tremendous advantage over less fortunate research engineers in many countries, who have to await location of suitable icing conditions in the sky to accomplish icing research on an "if-and when" basis.

Doubtless this is one reason why the United States has produced the best of existing de-icer systems, as judged by service records and purchased for airline and military airplanes.

The various schools of thought on de-icers are based on three principles:

(1) Chemical, (2) Thermal, (3) Mechanical.

(1) In the chemical group, little success has been found except for protection of propellers, where centrifugal force augments the chemical in throwing off under-cooled water particles. Dry surface coatings, lubricants, continuous application of liquids which lower the freezing point of water, and various pastes all fall short. Some actually increased the rate of ice formation.

(2) Although engine exhaust heat seems to be theoretically ideal, the weight of present radiators and distribution pipes is excessive for airplanes. Further research may produce a satisfactory thermal system. The principal use of heat in ice protection now is the carburetor heater which effectively prevents carburetors from icing up.

Theoretically the motors of an airplane lose enough exhaust heat to maintain a temperature sufficiently high on leading wing surfaces to melt ice, but whether a system can be designed which will melt ice as fast as it can form under severe conditions without decreasing the fuel or pay load too much is still questionable.

(3) The Goodrich mechanical de-icer, developed over a period of years in the refrigerated wind tunnel in Akron, Ohio, is generally accepted as the best present de-icer. It is used in a number of countries throughout the world, and by commercial airlines and the Air Corps in this country.

It consists of a sheet of vulcanized rubber, backed with extensible fabric to resist tearing, with one or more inflatable tubes (depending on the size of the airfoil) into which air under 7 pounds pressure is pumped.

The inflatable tubes run longitudinally along the leading edge. They are connected by tubing within the structure of the airplane to an electrically

driven distributor valve which controls periodical inflation and deflation by an air pump. On a large airfoil, such as the wing of the B-15, as many as 5 inflatable tubes have been used. They are inflated alternately, with a rhythmic inflation-deflation cycle of about 9 seconds, somewhat slower than a rippling action, but shown by tests to be more practical and efficient. The de-icer lies flat on the airfoil, covering the region where under-cooled water particles strike. The trailing edge is fastened by rivnuts and fairing strips which hold the de-icer taut when not in use.

In operation, when ice begins to form upon the surface of the rubber sheet covering the leading edge, air is introduced at the most efficient time intervals; the inflatable tubes round out, stretching the whole sheet; the ice while still in thin layers is lifted, loosened, and broken. The tubes are then quickly deflated and the loose ice blows away.

After turning the de-icer on, the whole operation is automatic as far as the pilot is concerned. An automatic control has been developed at Wright Field which relieves the pilot of even the necessity of turning on the de-icer. This "ice-detector" has passed experimental tests and will shortly be in the service test status.

Ice does not affect operation of an airplane radio unless the formation completely covers the insulator and forms a circuit around it. De-icers for radio compass loops and masts work on the inflated tube principle, and should be carried to prevent loss after the ice burden sets up a vibration. Smaller loops in streamlined housings do not require de-icers. One Air Corps pilot, flying through bad icing strata, suddenly lost a generous portion of a wing. A radio mast, heavily weighted with ice, vibrated off into a propeller, which flipped it out and through the wing. Antenna wires installed transversely rapidly pick up enough ice to snap in icing conditions; installed in the direction of the airstream, or not over 20 deg. from this position, icing is much slower.

An entirely separate system (anti-icing equipment) prevents formation of ice on propellers. This consists of a tank of fluid (15 parts of glycerin mixed with 85 parts of ethyl alcohol), a pump which meters out the fluid as needed, and a "slinger ring" attached to the propeller with a separate delivery tube for each blade.

The centrifugal force developed by V-8323, A.C.

the whirling blades serves not only to distribute the fluid over the surface of the blades but also tends to whirl the under-cooled water particles out and away rapidly after impact.

Depending on illumination and visibility of a leading edge relative to the pilot's position, formation of ice may be discovered by sight; by logy controls; by a sudden, foreign vibration; by inability to climb; or loss of altitude.

Pilots who have had considerable experience with ice agree that the best precaution is to stay out of it, if possible, or get out of it as fast as possible. Like a trip to the dentist, it's rarely fatal with the protection of de-icing equipment, but there's a distinct relief when it's over.

Some general rules are included in instructions to pilots:

"In going through icing strata, from the viewpoint of time exposed, the greatest possible rate of change of altitude (with low forward speed) should be used. In climbing, maximum allowable power should be used; a descent should be made with as steep a glide as other safety conditions will allow, with full carburetor heat applied.

"It should be remembered that the control of an airplane may be very seriously affected by small changes in the shape of the leading edge of control surfaces, thus a relatively small deposit of ice in any form at such points may be serious from this consideration.

"Pilots are particularly cautioned that when flying under conditions in general favorable to ice formation, the rate of deposit may be expected to increase very rapidly after the initial formation.

"As the operation of the de-icing system on airfoils affects the aerodynamic characteristics of the airplane, the system should not be operated while landing the airplane or in any other attitude of flight in which the airplane approaches the stalled condition."

All the meteorological conditions which are responsible for those physical states of water that result in its changing to ice on impact with an airplane belong to a highly specialized science which is still looking for answers. Use of the standard de-icer by skillful pilots has reduced the ice hazard in recent years.

Some years ago two airplanes of the same type were flown together on a 200-mile trip. A bad icing area was encountered. At the end of the flight, one airplane was so heavily iced that the pilot barely avoided a crash; the other airplane was not iced at all. Its pilot had maintained an altitude of 200 feet above the plane which almost was forced down by ice. He was not even

aware of the icing hazard on the trip until he saw the other airplane after landing.

It is the opinion of Materiel Division engineers that the future de-icer will employ the inflatable principle of the one now in use.

It will be more readily attachable and detachable. (It requires about 50 man-hours to install a de-icing system on a Bomber; to detach, about 6 man-hours.)

It will have a longer service life. (Two or three years is considered the maximum life of present systems.)

It will not affect the aerodynamic characteristics of the airplane when not in use. (No measurements of the de-icer's effect on lift or speed have been published. Recent changes in the rivnut and fairing strip method of attachment resulted in a smoother, neater job.)

Two additional improvements have been made lately; a synthetic rubber with more weather resistance replaced the former soft, pliable type. A coating of graphite increases its resistance to sunlight, and also increases conductivity so that the de-icer leads electrostatic charges out of its trailing edge into the airplane, where before there was some chance of the charge burning a hole in the de-icer.

Use of the refrigerated wind tunnel will accelerate future research in the problems involved in the protection of small streamlined surfaces, on which ice collects in relatively larger layers than on large surfaces.

As a result of studies published on icing of ailerons and movable controls, manufacturers can now design these surfaces to afford a maximum precaution against icing.

Systematic research may be expected in icing problems presented by wind shields, pitot tubes, radio parts, nose, pontoons, landing and running lights, and rivet heads, as well as continued improvement of de-icers for large airfoils of the future.

Note: Part I of the above article appeared in the issue of the News Letter of November 15, 1939.

Under date of December 5, 1939, the Chief of the Air Corps advised that funds in the amount of \$10,545.00 were being allotted to Randolph Field, Texas, for the installation of fireproof insulation and heating facilities in the Dope Shop, Building No. 38. This installation will permit the maintenance of proper temperatures for the repair, painting and doping of airplane parts in all types of weather.

WRIGHT FIELD EQUIPMENT EXHIBIT
By the Materiel Division Correspondent

The exhibit of the Equipment Laboratory prepared for the visit of the National Advisory Committee for Aeronautics at Wright Field in November contained more than five hundred items of equipment considered essential to the successful operation of military aircraft. One of the highlights was a group of twenty-nine lamps, ranging from one-half as large as a peanut, which operates on one and one-half watts and three volts, to a 10,000-watt bulb which is almost as large as a man's head. The smallest bulb finds a use in the illumination of aircraft instruments, each instrument containing a bulb. The largest bulb is used in airport floodlights. The twenty-seven lamps in between these two sizes also have essential uses.

Another highlight of the exhibit was a comparison of the commercial electric motors with aircraft electric motors. The commercial motors, rated at 2 hp. and 5 hp. respectively, weighed 165 pounds and 171 pounds and operated at approximately 1750 r.p.m. Aircraft electric motors, rated at 2.5 and 8 hp. respectively, weighed 7 and 16 pounds and operated at 22,000 r.p.m.

Mr. Clinton M. Hester, Administrator, Civil Aeronautics Authority, evinced considerable interest in this electrical equipment which included the latest types of runway marker lights, runway reflectors (which are similar to the reflectors often used on highway signs to make them visible with the aid of the lights from the approaching automobile), airport floodlights, the large Type B-5 wind direction indicators and portable obstacle lights with intermittent neon glow tubes, which operate through suitable transformers and vibrators from a 6-volt storage battery. The complete self-contained portable obstacle light assembly weighs approximately 100 pounds. The latest night lighting control cabinet operates like a dial telephone - dial a particular number to light a particular light and another number to turn that light out.

All members of the Committee were interested in accessory power plants. The sample in the exhibit was a 4-cylinder air-cooled internal combustion engine using a vertical shaft to drive a 7.5 KVA alternator at 4000 r.p.m., generating three-phase electric power at 110 volts and 400 cycles. The complete accessory or auxiliary power plant weighs less than 200 pounds, and it is designed for installation in aircraft in an effort to remove some of the accessory generators from the rear of aircraft engines, since this location is extremely

crowded today and aptly termed "no man's land". The further development of accessory power plants may succeed in removing many of the complications of the back of an engine by making it no longer necessary to drive a fuel pump, oil pump, air pump, and electric generators by the engine.

Dr. Fannevar Bush, Chairman of N.A.C.A.; Dr. Lyman Briggs, Director of Bureau of Standards; and Dr. George W. Lewis, Director of Research of N.A.C.A., were surprised at the multitude of items of auxiliary equipment required by military aircraft. These items included an emergency jungle kit, consisting of a latex sponge rubber pad with a compartment for carrying the following equipment: a large knife known as a "machete", a compass, cartridges for .45 Cal. pistol, iodine, quinine, matches, mosquito head net, fish hooks and line, and two Air Corps emergency rations. The jungle kit forms part of the back pad of the parachute harness. Another item is a life preserver vest which is inflated in an emergency to provide buoyancy in case of forced landings in water. This vest has been in common use for several years. Other items are an emergency shelter tent, mattress, and sleeping bag. The shelter tent is large enough to cover a man while he sleeps. The mattress is inflated with air very simply by connecting it to the bottom of a rubber "laundry bag" of rubberized fabric. The open end of the laundry bag is opened wide to catch some air. It is then rolled, forcing the air out of the bottom into the mattress. After three such operations, the mattress is full and ready for use. The sleeping bag is lined with blankets. The occupant wraps this around him and pulls the zipper up one side to make himself comfortable for the night.

Also exhibited are portable jacks, operated hydraulically by hand-pumps, with a lifting capacity of 50,000 pounds, and another smaller unit with a lifting capacity of 10,000 pounds; cast aluminum chocks to replace the wooden chocks which have been used for twenty years; mooring anchors, which, when driven into the ground, furnish a secure link to which the wings and tail of an airplane may be tied, when it is moored out in the open on a strange field; tow targets and windlasses for handling them; flying suits and various other types of clothing, including electrically heated gloves; also pneumatic rafts. The large Type B-12 anti-aircraft tow target, with the smaller Type A-5 aerial gunnery tow target, was suspended from the roof of the exhibit and overflowed into the ad-

joining offices. The two pneumatic rafts on exhibit were inflated and suspended on the wall. The Type B-2 is a small raft carried in Pursuit airplanes on flights over water and will support one man; the large raft is carried on Bombardment airplanes and will support an entire crew of ten men.

Colonel Lindbergh, Dr. Edward Warner, and Mr. Hester tried out the new shoulder type of safety belt. Little changes have taken place in the development of safety belts for ten years or more. However, this new shoulder type is a distinct step forward, inasmuch as in addition to the belt over the pilot's lap there are two shoulder straps fastened to the upper corners of the seat and extending down to the same releasing latch. The shoulder straps will prevent the upper portion of the pilot's body from falling forward in violent maneuvers as well as in crashes, and its release involves no additional complications. Slipping the latch releases the shoulder straps as well as the lap belt.

The exhibit contained a complete set of standard and service test models of aircraft engines and flight instruments, navigation computers, charts, tables, and sextants. Commander Reichelderfer and Captain Kraus made a thorough inspection of the Type C-1 field testing set, which is a portable buggy like a baby carriage, containing electric motors, air and oil pumps, and a set of master instruments which enable mechanics to check the operation of all of the instruments on an instrument board in a military airplane.

The exhibit in the Aero Medical Research Unit was visited individually by Dr. Lewis and Colonel Lindbergh and later by the remainder of the group. Colonel Lindbergh, probably as a result of his researches in collaboration with Dr. Alexis Carrel on the "artificial heart," was particularly interested in the human element in flight and revealed that he had carried on a certain amount of this work himself. Of particular interest to all of the members of the group were the photographs and charts illustrating the effect of oxygen want and the decrease of atmospheric pressure at high altitude and also the effect of acceleration on the human body.

Mr. Orville Wright was very much interested in the number of aerodynamic principles which have been utilized in flight instruments. Dr. Warren and Mr. Hester thoroughly inspected instruments for recording acceleration, velocity, and other factors during flight. Colonel Lindbergh made sure that he was brought up-to-date on the latest engine and flight instruments and the latest methods of celestial navigation.

The Materiel Division has fostered the development of automatic methods of control to a greater extent probably

than any other organization in this country. The display of the Equipment Laboratory included the automatic pilot with its many refinements, semi-automatic computers, an automatic engineer, and devices for controlling the flight of airplanes of various sizes from the ground. Because of the limited time, no attempt was made to explain in detail the operation of these various devices. The automatic engineer was inspected as installed and operating in one of the airplanes assigned to the Equipment Laboratory for flight tests of its developments.

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GRADUATIONS FROM A.C. TECHNICAL SCHOOL

On December 1, 1939, a total of 103 students graduated from the Air Corps Technical School, Chamute Field Branch, from courses and stations as indicated below.

Fields	PC	PR	CS	RR&O	ES	IS
Barksdale	2	2	1	-	1	2
Bolling	-	-	-	2	1	-
Chanute	-	2	-	2	1	1
Chicago	-	1	-	-	-	-
Duncan	1	-	-	-	1	1
Hamilton	-	1	1	2	1	2
Kelly	-	-	-	1	-	-
Knox, Fort	1	-	1	-	2	-
Langley	3	2	2	7	3	2
Lewis, Fort	-	-	-	1	-	-
Lowry	-	-	-	3	-	-
March	3	2	-	2	2	3
Marshall	2	-	-	-	1	-
Maxwell	-	-	-	1	1	-
Mitchel	-	1	1	1	1	4
Moffett	-	1	1	2	1	1
Offutt	-	-	-	-	1	-
Pope	1	-	-	-	1	1
Randolph	-	-	-	1	1	2
Riley, Fort	-	-	-	1	-	-
Selfridge	1	1	-	2	1	1
Sherman	-	-	-	1	-	-
Total	14	13	7	29	20	20

Key:

- PC - Propeller Specialist
- PR - Parachute Riggers
- CS - Carburetor Specialist
- RR & O - Radio Repairers and Operators
- ES - Electrical Specialists
- IS - Instrument Specialists

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The Congressional Committee which has been visiting Army installations for the past thirty days, visited Lowry Field, Denver, Colo., on December 9th, under the chairmanship of Senator Thomas of Oklahoma. Four Senators and four Representatives inspected the construction and facilities at Lowry Field. After a luncheon, which was tendered them by Colonel Jacob H. Rudolph in the general mess of the School building at Lowry Field, the visitors proceeded on to Fort Logan, Utah, for their inspection.

PROMOTION OF AIR CORPS NONCOMMISSIONED OFFICERS

Effective December 12, 1938, the following named Technical and First Sergeants of the Air Corps were promoted to the grade of Master Sergeant, Air Corps, to fill existing and newly allotted vacancies:

John E. Carden	John McStay
Sidney Miller	Raymond Kerr
Harvill B. Grote	August W. Keuhl
Basil Zaphiro	Walter Simpson
Edward J. Urweider	John Lukowski
Louis T. Silva	John B. Deming
Daniel Stone	Mack Reynolds
George A. Eggeling	Harold E. Crawford
Andrew J. Halsey	Robert B. Norris
Robert L. McKinstry	Robert Miller
Shockley D. Mullinix	Alex Kacziba
Peyton E. Hutchens	Charles E. Wendell
Oliver Olson	George W. Froberg
Edward A. Jusko	John Howard
Marvin E. Hay	William K. Sheffield
Ray R. Willett	William Mehnert
Michael Protivnak	Myron Roeske
Charles Joyner	Phillip P. Monroy
Roy D. Cheatham	Nikolas Thermanos
Harry Balacke	Walter H. Campbell
William Fitzpatrick	Reuben B. Morris
Edward F. Polaska	Arthur C. Barker
Walter T. Neary	Claude M. Gilbert
Walter W. Fry	Frank J. Birk
Leonard L. Hoffman	Fred A. Roberts
Adam J. Vielock	Floyd H. Peacock
Karl R. Johnson	Joseph Bauer
Thomas F. Toohay	Jack Wolfe
Lafe Teverbaugh	Joseph M. Fredericks
Victor Vicsik	Henry M. Merkle
Tony Dembroso	Mike Biniakiewicz
Marnel Silva	Henry L. Franklin
Michael M. Rozburski	Dave Jacobson
Ras L. Kirby	Graham Platt
Henry Camire	Morris A. Aubree
Jacob Abramitis	Besola Cobb
Leonard Miramontes	Harlan R. Utterback
William Hoffman	Walter D. Brown
Harry B. Aaronoff	Claud Emerson
Theodore Yurkiewicz	Max Eisenberg
Edward B. Fiedler	Henry Kirby
Richard F. J. Martell	Michael E. Connelly
Henry M. Ruhs	Sidney M. Rahn
Benjamin Webb	Harry N. Fuecker
John T. Hoyle	Earl S. Blesh
John A. Mauro	August Schantel
Robert H. Greene	Walter E. Banas
Roscoe O. Smith	Gerald G. Whitaker
George S. Jones	William H. Jernigan
Russell H. Frick	Robert L. Barlow
James M. Caldwell	Elza L. Higbie
Joseph H. Pust	Harry E. Hite
Matthew A. McGraw	Charles M. Cross
Robert E. Rice	Raymond Lutz
Charles R. Bikle	Harley J. Fogleman
Joseph J. Chinnigo	James E. Searborn
Orient M. Durling	Edgar W. Gardner
Samuel Silberman	Leonard Williams
Harry Hicks	Roy Wooten
Joseph Kramberg	John A. Marshall
Edwin Roseman	Albert V. Kanig
James C. Elder	Edwin J. McClellan

Clarence N. Reilly	Louis Greenberg
James A. Maginness	Francis M. Passwaters
William R. Taylor	Gilbert L. McMurrin
Eli B. Nipper	Edwin B. Bernier
Bruner R. Coke	Grover C. Moss
George W. Halterman	James J. Murphy
Edwin M. Lawrence	Miles B. Sloan
John S. Bezek	James E. Stewart
Earl H. Browning	Johnny V. Yocum
Louis V. McKenney	Joseph Montgomery
Asa C. Roobar	Rufus L. Clifton
Henry W. Spiller	Thomas A. Jones
Horace R. Ackerly	John H. Corse
Willie E. Newman	John F. Moran
Alphonse Gaudette, Jr.	Anthony Kievat
George D. Malkemas	Frederick Lawrence
Clarence E. Bright	James R. Tucker
Alfred A. Brooks	C.N. Guttenger
John H. Moore	Joseph O. Ducheanne
Taylor C. Carr	Daniel H. Jones
Jessy C. McConnell	Louis A. Kirby
Homer L. Patterson	Fred M. Haga
Arthur E. Pfenninger	Frank Hurst
Marion S. Tilghman	Homer E. Ferguson
Ernest Levesque	George W. Gaspard
Wilbur W. Farquhar	Edward F. Skelton
Harold F. Benson	Emmett A. Mobley
Lloyd Carter	Henry D. Boudreaux
Michael Chaturich	Cecil C. Seguire
Elmer E. Moore	John C. Dodd
Frank E. Dixon	Samson Smith

Effective December 12, 1939, the following named First Sergeants and Staff Sergeants were promoted to the grade of Technical Sergeant, Air Corps, to fill existing and newly allotted vacancies:

First Sergeants

Robert R. Elliott	William H. Heller
David L. Johnson	Earl L. Tolby
Hubert G. Powell	Russell M. Highley
Rupert E. Ferguson	Kenneth L. Thayer
LaVern A. Fee	James W. Porter

Staff Sergeants

Houston Alexander	Louis V. Eanes
Ira C. Lee	Baus C. Byrd
Donald F. Ewald	Charles C. Cunningham
John Smith	David L. Fredenburg
William E. Perkins	Cullen M. Snipes
Clarence D. Green	Frank R. Welsh
Frederick H. Renke	Kazimir M.A. Witwicki
Thomas W. Thompson	Albert W. Johnson
John Bouzek	James Adams
Max Parnes	Joseph J. Eberling
Wladyslaw Dobski	Alphonse Potvin
Henry Fennel	Anthony J. Olszanowicz
Eugene Gubis	Denver Wood
John H. Stipe	John F. Carter
Elmer Bruss	George H. Cornell
Harold M. McCabe	Elvin C. Ingram
Ashby M. Ash	Chris Nelson
Everett Mickey	Allan D. McQuaig
Herman C. Frast	Dennis W. Bailey
Clarence S. Rublee	Alfred Fernandez
James E. Hamer	John C. Willis
Thomas P. Atkinson	Gustav Sonnenburg

Albert E. Stewart
John H. Van Gundy
Stanley Modzeleski
Blackburn E. Litten
George H. Carpenter
Roman Dubiel
Harvey D. Masters
Erwin Meiserick
William A. Richards
George W. Cookson

William T. Mayes
Merton E. Wood
George R. Thompson
Isadere Oricht
Lewis Williams
Joseph A. McCarrson
Edward J.P. Bergbauer
Harold G. Andersen
Lafayette Braungardt
William K. Keister
Richard M. Tennant
Dae Hext
Vernon J.R. Loosemore
George J. Parker
Hugh Thomas
Joseph Glass
Norman W. Haley
Robert C. New
Mack Gibson
Thomas J. Rogers
Edwin N. Olson
Russell H. Miller
Fred B. Lingenfelter
Frank Bayne
Erik E. Lindhe
Earl D. Spore
Samuel F. Lantz
Floyd L. Banks
Bert M. Dumas
John Hanlon
Wayne M. Masser
John Arney
Tyne E. Hawkins
Everett A. Sell
Arthur L. Cron
Wallie Robinson
Fred J. Wymore
George Russell
Edward Ingle
Lester M. House
Levi A. Freed
Joseph E. Warrick
Louis Rubby
Nelson E. Morgan
Meriweather, Wm. F.
Lionel C. Edwardes
William Stone
Joseph A. Hoffert
Frederick E. Ganshaw
Junious A. Smith
Roy C. Jackson
John S. Welch
Richard E. Meeks
Frederick A. Howell
William A. Wesley
Elson E. Miller
John A. Brock
John E. Doyle
Roy C. Cook
Charles McDonald

Allen B. Neal
Wilbur C. Johnson
John R. Thompson
Walter D. Carlos
Lambert Tunberg
Charles E. Garten
Donald S. Velliquette
Roger Penrod
Robert Zernikow
Joe McCollum
Luther O. Wilkins
Edwin L. McNary
George Moore
Peter Munch
Elden L. Rose
Frank L. Adcock
George E. Chalmers
Fred L. Pike
Harry T. Brock
Marvin W. Woodson
Anthony Groves
Earl J. Leavey
Jack Casper
Martin M. Feigley
Walter E. Schwager
Paul Leonberger
Yancy B. Kuykendall
Harrison C. Finley
Grover C. Owen
Bryan I. Doughty
Dezo Romanovicz
David Fountaine
Eugene H. Ford
Rudolph Potek
Joseph L. Steurer
Oscar L. Klapp
Harvey R. Davis
Melvin K. Burlingame
Andrew R. Schady
James R. Booth
Joseph M. Savoy
Frederick R. Alford
Kyran L. Maher
Thomas P. Brisley
John Knier
Charles L. Garber
Paul M. Welwig
William A. Johnson
Walter W. Weisner
Mirl M. Clark
Harold E. Norton
Gordon Brackett
Elwood Adams
Richard McDowell
Joseph T. Landry
John J. Hoffman
Joseph O. Schreck
Edgar L. Krug
Thomas E. Stewart
Asher Goldfine
Harry Shilling
Hurley E. Jaynes
Eugene W. Latham, Jr.
Joda E. Maynard
Lawrence J. Trost
Green R. Fiest
Ralph H. Roberts
John G. Morris
Gordon R. Schrweide
John J. Conroy
Martin J. Cummings

John A. Courtney
Frank M. Stansell
James F. Vickery
Douglas M. Alward
Robert W. Stevens
Herbert G. Spees
Clarence A. Dively
Frederick W. Seidler
James H. Crawford
Frank E. Lyons
Harold L. Clancy
William J. Montgomery
Ralph W. Spencer
Zeb Stapleford
Russell W. Dillon
Martin K. Boger
Vollie O. Burkett
Joseph C. McCullough
Claude F. Tilley
Robert P. Cott
Robert R. Bass
Joe C. Collier
John J. Kowaleski

Harvey Liddon
Richard Olson
Tyra O. Robinson
Benjamin Hoffman
James M. Kirby
Alfred I. Taylor
James B. McCormick
William H. Alvord
Thomas B. Walker
Everett J. Towle
William P. Denning
Joseph G. Macek
Sidney R. Glover
Erwin A. Schmidt
Guy W. Trent
Carl Swenson
Thomas V. Wyllsey
Joseph E. Stockwell
John Belechak
Benno W. Hild
Tommy Ray
Ray L. Trimble
Steve Taylor

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TORNADO SENDS THINGS FLYING AT FRANCE FIELD

During a normal rainstorm on December 6th, France Field, Panama Canal Zone, experienced its first tornado. First came the rain in veritable sheets. Next came the winds in terrific battering blows, accompanied by huge sections of galvanized steel roofs of hangars and huts. Trees were uprooted, and sentry boxes, one with a sentry seeking refuge from the storm, were hurled twenty yards from foundations.

One A-17 airplane broke loose from its stakes and went rolling rapidly down the field. Pursuing the plane in his car, Lieut. Jack Carter was able to jump in and stop it, thus saving one airplane for the Air Corps.

Three men in the radio hut adjoining the Base Flight Hangar narrowly escaped death when sections of the roof of the hangar crashed completely through the hut, demolishing it.

Two women clerks in the Quartermaster Office became hysterical when the roof of that building was lifted off by the winds. They ran outside in the torrential rains and flung themselves in a drainage ditch for protection.

Fortunately, the tornado lasted scarcely half a minute, or there would have been much more damage. No airplanes were seriously damaged, but it was estimated that about \$50,000 will be required to repair and replace ruined hangars and equipment.

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GLENDALE SCHOOL GRADUATES 71 PERCENT OF ORIGINAL CLASS.

Twenty-four Flying Cadets out of an original class of thirty-four survived the primary training course in the class graduating from the Grand Central Flying School at Glendale, Calif., on December 16th. The graduates were sent to Randolph Field, Texas, for the three months' course of basic flying training.

V-8323, A.C.

BLERIOT AIRPLANE FOR WRIGHT FIELD MUSEUM CHIEF OF AIR CORPS INSPECTS GRAND CENTRAL FLYING SCHOOL

The Army Aeronautical Museum at Wright Field received an interesting new exhibit, a Bleriot airplane of the same type in which the famous first crossing of the English Channel was made. The airplane was donated to the Air Corps by Ernest Hall, who has spent some time at the Materiel Division on temporary duty in charge of its assembly.

Louis Bleriot, it will be remembered, designed the first airplane of mono-plane structure; likewise, he was the first designer to put the engine in the nose of the plane with a tractor propeller in front of it. He also conceived a fish-like or streamlined body with the horizontal and vertical control surfaces located at the rear end of the fuselage, and introduced the stick form of control. The wings were warped after the old Wright method. It proved to be a new standard, copied by other designers for many years thereafter. After building this radical structure, he made the first air crossing of the English Channel back in the dim days of 1909 - a time already as traditional for aviation as centuries have proved for other arts and sciences.

The model donated to the Museum resembles this early Bleriot model in all details. Parts of it were acquired by Ernest Hall in 1910, a year after the channel crossing, and the airplane is known as the "Channel" model. With its "stick and wire" construction, its breezy cockpit, its bell control, its model of the 3-cylinder Anzani air-cooled engine, which develops 28 horsepower, it is an exhibit to set present-day early birds to reminiscing and modern designers to wondering. It is mounted under the ceiling beams of the Army Aeronautical Museum, just opposite an exact reproduction of one of the early Wright gliders. For this gift of lasting value, the Air Corps owes its thanks to the donor.

The name of "Wright Escadrille" has been taken by a new civilian flying club in Dayton, for which J.P. Callahan of the Equipment Branch, Wright Field, has been chosen instructor. Mr. Callahan is a reserve officer.

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Following the December 5th examinations, 25 members of the 53rd School Squadron, stationed at Randolph Field, Texas, successfully passed the tests and were placed on the eligible list for appointment as Air Mechanics. Many members of the 53rd are proudly displaying new chevrons at this time, from the "one stripe" to the coveted "Master."

Major General Henry H. Arnold, Chief of the Air Corps, upon arriving at the Air Corps Training Detachment at Glendale, Calif., found his old friend Bill Henry, war correspondent of the Los Angeles Times and Columbia Broadcasting System, waiting to greet him.

Henry, just back the previous day from the Western Front, sat beside General Arnold at a luncheon given by Major C.C. Moseley, owner of Grand Central Flying School and Curtiss-Wright Technical Institute, where Flying Cadets and enlisted men of the detachment are being trained, and gave the Air Corps Chief and his staff two hours of first-hand information about the War. Since the war began, Henry has been at the front with Royal Air Force groups.

Upwards of twenty Los Angeles newspaper men met General Arnold as he arrived to begin his inspection, the large group attending the current public interest in the Air Corps' training program. Since the training Detachment was established last July, the publicity department of Grand Central and Curtiss-Wright Tech. has devoted almost its full time to creating public interest and backing for the Air Corps operation.

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ONE ON CAPTAIN BROWNE

On a recent trip to Tegucigalpa, Honduras, Capt. Roger Browne, commanding the 24th Pursuit Squadron of Albrook Field, C.Z., picked up the name of "Navigator" and it looks like the name is going to stick to him.

After leaving Managua, Nicaragua, members of the flight, led by Capt. Browne, were supposed to go to an emergency landing field, known as San Lorenzo, and change course there for Tegucigalpa.

The route, it was known, was between two ranges of hills.

With San Lorenzo in sight, Capt. Browne changed course. As the E.T.A. arrived, all members, including himself, were surprised to learn that their destination was nowhere in sight.

Then came the light, and all nine members of the flight discovered they had gone up the wrong valley, and it was necessary to cross another range of hills to get to the Honduras city.

"I just went up the wrong gulley", Capt. Browne explained.

No member of the flight had known the difference to begin with. All admitted that they had checked off check points as they came to them, even if they were on the wrong course.

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SECOND CLASS GRADUATES FROM ABBREVIATED COURSE AT AIR CORPS TACTICAL SCHOOL

The second class to undergo the abbreviated course of instruction (three months) at the Air Corps Tactical School, Maxwell Field, Ala., graduated on December 5, 1939. Ninety-six Air Corps officers and four officers from other branches of the service completed the course.

The student officers staged a graduation party on the night of December 2nd, which featured several skits and afforded those who participated therein to lampoon their instructors.

Major General Henry H. Arnold, Chief of the Air Corps, was the principal speaker at the graduation exercises. Following the invocation by Chaplain McWilliams, a recent arrival at Maxwell Field, Colonel Millard F. Harmon, Assistant Commandant of the Tactical School, delivered a brief address of appreciation to the members of the class and all those who extended their aid towards the success of the School.

Colonel Walter R. Weaver, Commandant of the Tactical School, then introduced General Arnold who, during the course of his address, described and reviewed the current system of tactical education in the Air Corps. He stated that it was most probable that five more 3-months classes of 100 students each would be held at the School, and that this would mark the tactical schooling of practically all those Air Corps officers who were over 32 years of age. He then proceeded to describe some of the problems which will confront the students when they will have returned from the school to their home units, chief among them being the care and consideration of the thousands of young recruits the Air Corps is now receiving from civil life—a body of men referred to by him as an outstandingly fine type of young American manhood.

At the conclusion of General Arnold's address, diplomas were presented to the graduates, two of whom received outstanding ovations from their classmates—Major N. Stewart, dubbed "General A" by his classmates for his unusual active interest in matters presented by his instructors, and Major Lewis S. Webster, General A's Chief of Staff. At the class party, several days prior to the graduation exercises, both of these officers were called on the mat by the Master of Ceremonies of the students' party, Captain Eareckson, and presented with appropriate tokens of appreciation for their extra curricula activities *****

During his stay at Maxwell Field in connection with the graduation exercises at the Tactical School, General Arnold had occasion several times to give talks to the assembled officers of

scribed the application of the principles of air power in a modern military campaign. Again, informally, he voiced his appreciation of the Air Corps personnel. Referring to the current expansion, he stated he was well pleased with the progress being made and with the increase in tempo of activities at the Air Corps Tactical School.

NEW PHOTOGRAPHIC AIRPLANE

The first photographic airplane, of an order placed with the Beech Aircraft Corporation, has been delivered at Wright Field, Ohio. Assigned the designation F-2, it is the only airplane especially designed to carry two tactical mapping cameras in tandem. The construction is an all-metal, three-place, two-engine, low-wing monoplane especially built for use in rapid and accurate mapping of large areas. The design is such that the maximum possible visibility is afforded the pilot and photographer, and take-off and landing can be accomplished on the relatively small airdromes which frequently must be used in mapping the mountainous sections of the United States. Two Pratt and Whitney 9-cylinder engines furnish power. Propellers are two-bladed, with a diameter of 8 feet, 7 3/4 inches. The wing span is 47 feet, 7 3/4 inches.

Besides the tactical mapping cameras mounted in tandem, arrangements are made to include a single rapid reconnaissance mapping camera, an additional tactical mapping camera, mosaic and spotting high altitude camera, an oblique spotting camera, and a night spotting camera.

The airplane, which is similar to the commercial type developed by the Beech Aircraft Corporation, is equipped with a radio and automatic pilot.

TWO RANDOLPH FIELD NONCOMS RETIRED

Master Sergeant Fred B. Rowell, 53rd School Squadron, and 1st Sergeant Albert Schleich, 52nd School Squadron, Randolph Field, having reached the end of their 30 years' period of service, were placed on the retired list, effective December 31, 1939.

Sergeant Rowell has been a member of the Air Corps since December 2, 1914. Sergeant Schleich first joined the Air Corps on August 29, 1928, being assigned to the 52nd Squadron, from which organization he retires as "Top."

Sergeants Rowell and Schleich were congratulated by Colonel John B. Brooks, Commanding Officer of Randolph Field, on their excellent records, and extended his good wishes in their well earned retirement.

"A L A E S U P R A C A N A L E M"
By Brigadier General Herbert A. Dargue, Air Corps
Part III

For years the steamship travel bureaus have publicized the lands which border the Caribbean Sea, and the islands within it, as tropical playgrounds, stressing the fact that here is to be found delightful recreation and holidays tinged with romance. But little has been written of the work that is being accomplished in Central America, of everyday life here, and of normal activities. The "tropical paradise" theme has been over-stressed all too frequently. Conversely, a great many people have the idea that the country consists of dank, steaming jungle entirely, and that life and health is something to be jealously guarded.

The personnel of the 19th Wing, stationed at Albrook and France Fields in the Canal Zone, and engaged as they are in an occupation which demands physical fitness and mental alertness, have found that here there are a great many widely varied opportunities for relaxation and recreation. During hours of freedom they have as wide a choice of pastimes as any of their fellows in the United States or elsewhere, if not more. A mild, even climate, and splendid facilities for recreation, plus the natural potentialities of the country for sport, all make for a healthy, active life.

Fishing and hunting and kindred outdoor sports have long been favorites with Air Corps personnel. Golf and tennis have their ardent devotees. Swimming, riding, boating, shooting - and nearly every other sport, outdoor or indoor, may be practiced here the year round.

Authorities on salt water fishing agree that for quantities of great sporting fish, the Bay of Panama is hard, indeed, to equal. Here are to be found giant black marlin, the Pacific sailfish, varieties of jacks and bonitos, Sierra mackerel, yellow-fin tuna, the sporty "rooster fish," snappers, dolphin and dozens of other varieties. Kip Farrington, a noted salt water angler, states that there is as much fish life about the Perlas Islands in Panama Bay as in any place he has ever visited. Anything from a light brass rod to the heaviest of salt water tackle will pay the richest of dividends in pleasure and enjoyment. Fishing here is a popular sport, indeed. If you have been assigned to the Canal Zone, by all means bring along all the tackle you can get together - the possibilities are endless. At France Field, within a hundred yards of the runways, have been caught tarpon of huge size. At the spillway at Gatun Dam, casting for small tarpon and robaldo is fine sport, and

they strike hungrily and often. In the Chiriqui Mountains at Boquete, near the northern border of Panama, and quite accessible is a mountain stream containing an abundance of trout.

Hunting in Panama is a sport for the enthusiast only. There is game here, and in plenty, but the fact that most of the game animals are night prowlers and not frequently found by day, presents an obstacle. Deer are often seen at night - seldom seen by the daylight hunter, but they may be found if one has the persistence and necessary skill.

To the westward of Albrook Field, in the foothills of the mountains, where the country is very much like western Texas, there is an abundance of game. The hunter must be diligent, however, and guides and dogs are useful, if not essential. Also to be found are the native game birds, the giant wild pigeon, native turkey, pheasant, doves, a few quail, and in the northern zones ducks in great numbers. In the mountains and in the deep forest are the giant tapir, or "vaca del monte," the jungle cats - ocelot and whistlers. Everywhere are the native rabbits and the "conejo," a large brown rabbit-like creature. A good shotgun and a .22 rifle will provide excellent sport. There are no bag limits or closed seasons in the Republic of Panama - a hunting license is all that is required; and, but few sections of the Canal Zone are closed to hunters, while the remainder is open.

There are a number of splendid golf courses available to Air Corps personnel, the two best being the Panama Golf Club course just outside Panama City on the Pacific side, and the Gatun course on the Atlantic side. Fees are reasonable, and the game is very popular on both Air Corps posts here. Both stations are equipped with tennis courts and squash courts, both have pistol and rifle ranges, both have skeet ranges. There is a new concrete swimming pool at Albrook Field, and a beautiful salt water pool is adjacent to France Field, on the Naval Reservation of Coco Solo.

Horses from the stables of the neighboring posts are available to the officers here, and jungle trails lead in all directions. At France Field there is a splendid anchorage for boats, and a great number of personally owned craft are kept here. Near Albrook Field, the Balboa Yacht Club makes provision for the docking and repair of pleasure craft. In addition, each post maintains at least one boat for recreational uses by members of the command.

There are theaters at each of the Army posts on the Isthmus, and late pro-

ductions are shown, with a complete change of program every evening. Parties and social functions are frequent and highly successful. There are beautiful, open air dancing pavilions in both Colon and Panama City, gay clubs and cabarets.

Panama is rich in legend and historical background, and sightseeing and trips to the interior and to the landmarks of Old Panama are always of interest.

There is practically no limit to the possibilities for pleasure and amusement. Individual tastes and the limits of one's free time are the only confining factors. We of the 19th Wing have had to give up none of our sports or amusements while serving in the Canal Zone. Since healthful recreation, exercise, and mental relaxation are vitally important in the business of keeping fit, we find time, all of us, to enjoy thoroughly the opportunities which the place affords.

Note: Considerable credit is given 2nd Lieut. Joseph H. Paul, Air Reserve, in the preparation of this article.

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TRAINING ACTIVITIES IN PANAMA

By the News Letter Correspondent

The present international situation makes the Panama Canal Uncle Sam's key position insofar as national defense is concerned. Even though our position is one of strict neutrality, the strategic importance of the Canal is so great that its defense units must be ready for instant action against any aggressor.

It is a known fact that one very logical form of attack would come from the air and would be directed at vital spots of the Canal so as to cripple its operation.

The 6th Bombardment Group, located at France Field on the Atlantic side of the Isthmus, has been conducting a series of Group problems in preparation for any emergency that might arise.

Through the Cristobal Port Captain, the Group Commander arranges to obtain information as to the approximate position and description of some ship approaching or leaving the Canal. Then, the following morning, the 7th Reconnaissance Squadron is charged with conducting a search mission for the ship in question. Conditions of actual warfare are simulated so far as practicable. Radio silence is maintained with the exception of periodic position reports which are communicated for purposes of safety; however, under actual conditions even these would be omitted as they give information to the enemy.

The individual planes are fanned out in a search formation, the interval between planes depending directly upon

the visibility. When the target (ship in question) is sighted, an encoded contact message is radioed to the Group Commander, giving the time of interception, course, estimated speed, and position. With this information in hand, the Group Commander issues an order to the Commanding Officer of the 25th Bombardment Squadron, who takes off with all ships of his squadron fully equipped with bombs, ammunition, etc. The Bombardment Squadron then flies to the position reported and releases sufficient oil to create a "Slick" on the ocean's surface, which serves as their target for the problem.

The Group has been selecting ships ranging between 150 and 200 miles off shore, but this distance will be gradually increased as the personnel gather experience.

The big point that has been demonstrated to all the personnel taking part in these problems is that practice is essential to success. The team work required is of the same order as that displayed in a smooth working football or baseball team, and only one weak point will result in failure. Each successive trip finds fewer flaws in the operation of the problem, and this in turn builds confidence and morale—two important essentials in air discipline.

It is the opinion of the Group staff that, should its aid be called on, it will be qualified in every sense to perform its mission.

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CHANUTE FIELD'S PUBLIC RELATIONS ACTIVITIES

Since the advent of the Air Corps Expansion Program, authorized by the 76th Congress, the duties of the Public Relations Office at Chanute Field—home of the Air Corps Technical School—Rantoul, Ill., have increased many fold. The success of any large scale recruiting drive can be directly attributed to the widespread use of newspaper publicity. Employing such organs as OUR ARMY Magazine and RECRUITING NEWS, along with regular contributions to various newspapers throughout Central Illinois, the Chanute Field Public Relations department has been able to sell the idea of a technical education to young men by pointing out the many advantages offered by the Air Corps Technical School. This work is greatly aided by the many fine cuts produced by the Photographic Department which illustrated the 1176 column inches of publicity printed during the months of October and November, 1939. Also, under the guidance of Major James E. Duke, Jr., Public Relations Officer, is the series of radio programs, WINGS OF THE ARMY, heard weekly over Station WDWS in Champaign-Urbana, Ill.

The Photographic Department at Chanute Field recently received four new Speed-Graphic cameras. These cameras are of a type in wide use throughout the world by prominent news services. The syncro-flash devices, part of the regular equipment, make them invaluable for the type of pictures that are needed to supplement Public Relations news releases. No longer does the cameraman have to depend upon weather and lighting conditions before taking pictures. The new cameras will take a sharp and well-defined picture at any time or place.

There are two distinct types of news items being released through the Chanute Field Public Relations Office - general news releases concerning Chanute Field, and special news items of Air Corps Technical School activities - Chanute Field Branch.

A total of 996 column inches appeared in newspapers throughout Central Illinois, with 622 inches being devoted to general news items concerning Chanute Field, covering all phases of activities not related to the Air Corps Technical School, viz: construction, visits of notable persons and other topics of a similar nature. A total of 209 inches was devoted to the Air Corps Technical School and, lastly, 165 inches generally plugging the Army Air Corps, high-lighting no particular field. Figures quoted on publicity are taken from articles on file in the Public Relations Office. The actual publicity in inches is unknown, as a large number of the articles are released and editors fail to forward clippings.

The greatest difficulty thus far encountered has been the fact that many of the smaller and weekly newspapers do not have the facilities for cutting mats. They were interested in publicity concerning the Air Corps, but express regret over their inability to make use of the pictures. A careful study has proven that towns and cities with a populace between 10,000 and 100,000 are most likely to print A.C.T.S. items. Of course, there are always exceptions to any rule. School publicity has consisted mostly of an individual shot of a student at work in a classroom activity of his particular course. Captions were provided, in text about as follows:

Private Walter F. Domanski, son of Mrs. Helen A. Domanski, of 75 Clark Street, New Britain, Conn., is shown operating a radio compass, one of the many phases of instruction covered in the Radio Repairers and Operators Course at the Air Corps Technical School, Chanute Field, Rantoul, Ill. He is one of the 3,000 students to graduate from the Department of Communications during the Air Corps Expansion Program. The Department of Mechanics, also at Chanute Field, will

turn out 7,000 graduates during the next two years.

One specific instance of a picture page layout secured in the Ottumwa Courier, Ottumwa, Iowa, might be further explained as having the following set-up: Seven individual pictures of men from Ottumwa, an aerial view of temporary barracks, interior shot of one of the new barracks, and one classroom shot of a group of students at work. A notation was made on one of the captions that information relative to enlistment could be obtained from the Public Relations Officer. Twelve young men responded, and several subsequently enlisted for service at Chanute as a direct result of the feature story carried in the Ottumwa Courier. Contacts are being made with editors for more of this type of publicity.

The WINGS OF THE ARMY radio programs have undoubtedly done much to create interest in Chanute Field and the Army Air Corps. They have very effectively pointed out the advantages of securing a technical education in aviation through the medium of the Army Air Corps. In spite of the technical variety of topics covered, they were presented in such a manner as to be clearly understood by even juvenile listeners. This program is nearing completion, and efforts are being made to continue broadcasting from the Field to keep the Air Corps Technical School constantly before the public.

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NEW POST OFFICE FOR ALBROOK FIELD

Albrook Field, Canal Zone, is one of the two places in the Panama Canal Zone to receive a new post office, and it was opened December 1st in the Albrook Field Headquarters building.

Postal officials announced that the installation of the new office was to care for the increased business at the field due to the arrival of additional officers and men.

Mr. Harold O. Ludwig, formerly postmaster at Corozal, took charge of the new office. Record business was anticipated the first few days the office was opened, for the Bureau of Posts had received many inquiries from philatelists who wished to obtain first day cancellations.

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A total of 39 students graduated as Radio Repairers and Operators from the Air Corps Technical School, Chanute Field, Ill., on December 15, 1939. Chanute Field had the largest representation of graduates, with 17, followed by Bolling Field with 4, Selfridge and March Fields with 3 each and Langley Patterson Fields with 2 each. Eight other stations had one student each.

8323, A.C.

HIGH PERCENTAGE OF PRIMARY FLYING STAGE GRADUATES

Under Special Orders of the War Department, recently issued, 109 second lieutenants of the Regular Army, graduates of the June, 1939, Class of the U.S. Military Academy, West Point, N.Y., were assigned to duty at Randolph Field, Texas, to undergo the basic course of flying training. Originally, a total of 147 West Point graduates had been assigned to the nine civilian elementary flying schools to undergo the three months' primary flying course. The number of graduates from this course, approximating 74%, is above the usual average; for past experience has indicated that the number of students completing that stage of flying instruction normally approximates 60%.

The graduates from the nine elementary flying schools are listed below, as follows:

Spartan School of Aeronautics

Willard B. Atwell, Inf.	John L. McCoy, Inf.
Donald R. Ross, CAC	Cecil C. McFarland, Inf.
John W. Carpenter, 3d, FA	Joseph G. Perry, C.E.
John A. Chachila, SC	R.C. Richardson 3d, Cav.
Albert L. Evans, Jr. CAC	Robert J. Rogers, Inf.
Fred'k H. Foerster, Jr. CAC	Daniel F. Tatum, Inf.
Geo. E. Howard, Jr. SC	Robt. C. Twyman, SC
William C. Jones, Cav.	Leon R. Vance, Jr. Inf.
Andrew J. Kinney, CAC	Alfred V. Walton, Inf.
Salvatore E. Manzo, Inf.	Robt. C. Whipple, Inf.
Tom K. Martin, Inf.	

Allen Hancock College of Aeronautics

James E. Mather, Cav.	Oliver B. Taylor, Inf.
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Parks Air College

John C. Edwards, Inf.	Ray J. Will, Inf.
Carl W. Hollstein, Inf.	Elbert O. Meals, CAC
Joseph E. Reynolds, Inf.	Robert B. Miller, CAC
Eugene A. Romig, Inf.	S.B. Hardwick, Jr., FA
Elliott Vandervanter, Jr., Inf.	

Grand Central Flying School

Walter J. Alsop, Inf.	Joseph H. Frost, FA
Robert E. Greer, CAC	

Alabama Institute of Aeronautics

Burnham L. Batson, Inf.	John E.L. Huse, Inf.
Vincent L. Boylan, Cav.	Harmon Lampley, Jr., FA
R.C. Crawford, Jr., CE	R. Van W. Negley, Jr.
Warner W. Croxton, Jr., FA	Roger E. Phelan, FA
Joseph L. Dickman, Inf.	Chas. M. Walton, Jr. Inf.
Allen F. Herzberg, SC	A.T. Williams III, Cav.
Chas. H. Hillhouse, FA	P.T. Wynne, Jr., CAC

Lincoln Airplane and Flying School

A.K. Breckinridge, Cav.	Maurice M. Miller, Inf.
James D. Garcia, CAC	Wm. W. Nichols, Cav.
Robert D. Hunter, Cav.	Leonard N. Palmer, SC
Newton E. James, Inf.	Robert M. Wray, SC

Chicago School of Aeronautics

Robert F. Cassidy, FA	Paul R. Okerbloom, SC
Elwood P. Donohue, FA	John G. Pickard, CAC
Robert P. Hoffa, SC	Delmar J. Rogers, CE
F.W. Isaman, Jr., FA	John S. Samuel, CE
E.J. Lateszewski, FA	Wm. T. Smith, CAC
Robert R. Little, FA	Lewis W. Stocking, Inf.
Chas. J. Long, 3d, CAC	Thos. B. Whitehouse, Cav.
Norman J. McGowan, CAC	James W. Wilson, Inf.
Richard S. Morrison, SC	Geo. W.R. Zethren, FA

Ryan School of Aeronautics

Chas. H. Bowman, Inf.	Richard G. Lyoan, FA
Elmore G. Brown, Inf.	James L. McBride, Jr., CAC
S.W. FitzGerald, Jr., FA	David K. White, CAC
George Y. Jumper, Cav.	

Dallas Aviation School and Air College

Milton B. Adams, Inf.	James B. Knapp, SC
Benj. F. Avery, 3d, Inf.	James L. LaPrade, Inf.
William S. Boyd, Inf.	Paul J. Long, Inf.
Harry N. Brandon, CE	E.B. Maxwell, FA
T.J.J. Christian, Jr. FA	Wm. L. McDowell, Jr. Cav.
M.W. Engstrom, Inf.	M.J. McKeever, Jr. Inf.
Walter W. Farmer, CE	Jack G. Merrell, Cav.
William A. Garnett, Cav.	R.T. Petersen, Inf.
Benoid E. Glawe, FA	Robert C. Sears, Inf.
Hugh A. Griffith, Jr. SC	C.L. Shepard Jr., FA
Laird W. Hendricks, CAC	H.R. Sullivan, Jr. FA
Perry M. Hoisington, 2d, FA	L.N. Taylor, Jr., FA
Ellsworth R. Jacoby, Inf.	Tilden P. Wright, CAC
Jos. T. Kingsley, Jr., CAC	

THE NUMBERING OF RUNWAYS

Lieut. Colonel Edgar P. Sorensen, Air Corps, of the Office of the Air Corps Board, Maxwell Field, Ala., recently forwarded the following communication to the Information Division:

"1. A good question is put by the last sentence of your article entitled 'A Warning to Pilots,' page 16, News Letter of November 15th, 1939. When a visiting pilot is told over the airport control radio to land on runway number six it is frequently necessary to do a bit of searching for the said number six.

2. It appears that good use could be made of the numbering as it appears on the face of a clock for a solution of this problem. A plan substantially as follows would be appropriate:

Select approximate center of the landing area for orientation purposes.

Orient clock numbering about that center and with 12 always at the north.

Select and use such numbers from the face of the clock as most nearly fit the positions of ends of runways, landing strips, or usable edges of the landing area.

3. On a field known to be marked as suggested above, a visiting pilot, when told to land at six, knows he will find six appropriately centered at the south edge of the field. Airport control could then simply tell the visiting pilot to 'land on runway' at six, or 'land at six toward the north,' etc., thus simplifying conversation somewhat, as well as making it easier for the pilot to determine the indicated spot on a strange field."

During November, 1939, the Engineering Department of the San Antonio Air Depot overhauled 16 airplanes and 123 engines, and repaired 34 planes and 8 engines.

V-8323, A. C. ...

The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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MATERIEL DIVISION ACTIVITIES FOR 1939

By Brigadier General George H. Brett
Chief of the Materiel Division.

A high spot of an unusually busy year for the Materiel Division was the celebration of the thirtieth anniversary of the Air Corps on August 2, 1939. Wright Field was selected as the focal celebration point, and aviation notables from all parts of the world congregated there. Of permanent importance were six international air records set as a celebration feature. These are significant as a source of information regarding the comparative capabilities of U.S. airplanes in certain specialized fields.

The international records were:

- (a) Greatest pay load carried to an altitude of 2000 meters (6561.66 feet) (14,135 kg. to 8200 ft., Boeing B-15 airplane)
- (b) Speed without pay load over 1,000 km. course for amphibians (186.094 m.p.h., Grumman OA-9 amphibian)
- (c) Speed with 5000 kg. pay load over 1000 km. course (259.396 m.p.h., Boeing B-17A airplane)
- (d) Course speed record with crew, Los Angeles to New York (265.383 m.p.h., Boeing B-17B airplane)
- (e) Speed carrying 2000 kg. pay load for distance of 5000 km. over closed course (166.32 m.p.h., Boeing B-15 airplane)
- (f) Altitude with 5000 kg. pay load (33,400 ft., Boeing B-17A airplane)

Information has since been received from the Federation Aeronautique Internationale of Paris, the authorized homologation body for international records, that four of these records have been examined and officially recognized. These records appear under (b), (c), (d), and (e) in the foregoing list.

Award of Distinguished Flying Cross

The celebration was also the occasion of the presentation of Distinguished Flying Crosses to Major Carl Greene and Captain A.H. Johnson for development and flight test of pressure cabin airplane, and to Captain C.J. Crane and Captain G.V. Holloman for development and flight test of the automatic landing system.

Expansion Program

The Materiel Division was vitally affected by the Air Corps Expansion Program which was launched by the Military

Appropriations Bill of 1940. In order to meet the demands of this program, expansion of the Division had to be accomplished as expeditiously as possible. This problem was attacked upon four fronts: organization, personnel, building, and equipment.

The responsibility of providing for the increased engineering, procurement, inspection, and testing necessary to increase the number of Air Corps airplanes to 5500 by July 1, 1941, was no light task. Formerly the Air Corps had had delivery on approximately 200 new airplanes each year. Before the Appropriations Bill had been voted by Congress, however, anticipatory work to meet its requirements was well under way at the Division.

Organization

Organization changes included the creation of posts for two Executives where formerly a single Executive had served as the immediate assistant of the Chief of the Materiel Division. One post called for a Technical Executive with jurisdiction over all technical matters pertaining to development and procurement of aircraft and equipment; the other for an Administrative Executive with jurisdiction over personnel, service, and related matters.

In order to expedite aircraft production, a Production Engineering Section was formed. A group of officers and civilians thoroughly experienced in development and production matters were assigned to this work, principally from the Procurement and Experimental Engineering Sections. The Project Officers and engineers chosen to form part of the group had for years followed the development of specific tactical and training aircraft types from the drawing board through delivery and flight testing. A Government-Furnished Equipment group was instituted in order that supply of sufficient and necessary equipment to meet needs of aircraft manufacturers at scheduled times might be effected. The issuing of specifications and production drawings was also made a function of this Section.

The former Procurement Section was broken down into a Contract Section and

an inspection Section, the former being responsible for the issuance and administration of all purchase contracts, including the necessary legal procedures pertaining to them. The inspection Section, with representatives in three districts, central, eastern and western, was made responsible, as the name implies, for the inspection of all new aircraft, equipment and materiel.

The Experimental Engineering Section was widely expanded throughout the five main laboratories, namely: Aircraft, Power Plant, Materials, Armament and Equipment. The Aerial Photographic activities were taken from the Equipment Laboratory and established as a separate unit. The propeller activities were likewise separated from the Aircraft Laboratory, both new agencies reporting directly to the Chief of the Experimental Engineering Section.

These reorganizations had scarcely been put into operation when the office of the Chief of the Materiel Division was transferred from Wright Field to Washington, D.C. About October 1st, therefore, Brigadier General George H. Brett, with a selected staff consisting of approximately a dozen officers and an equal number of civilians, reported for duty in Washington.

This is the first application of the decentralization plan to the Materiel Division. The purpose of this transfer was to accomplish more direct liaison between the Chief of the Air Corps and the Materiel Division. In this change the Assistant Chief of Materiel Division was placed in immediate charge at Wright Field.

Personnel

In order to supply the necessary personnel for this expanded organization, the number of civilian employees leaped from approximately 1300, a figure which had been comparatively static for several years, to 2,000 in a period of about six months. The number of officers was also increased from approximately 100 to 180.

Buildings

An addition of working room was naturally consistent with the enlargement referred to in preceding paragraphs, and immediately plans were laid to increase floor space, which had previously amounted to approximately 900,000 square feet. Work was started on converting the large auditorium of the main administration building into offices. Ground was broken for an additional two-story Power Plant office building, a dynamometer laboratory and an additional wind tunnel. A propeller laboratory and torque stands came into the picture also.

Equipment

In the tremendously increased activities which resulted from the appropriation of \$300,000,000 for the Air Corps, \$50,000,000 of which was made available before the close of the fiscal year for immediate expenditure, the emphasis was

temporarily placed upon procurement and production procedure, the Experimental Engineering forces being absorbed for the time in assisting in the evaluation of aircraft, checking of analyses, and other technical details involved in selection and equipment of types. Responsibility for the sound expenditure of vast sums of money rested to a large extent upon their recommendations. Some idea of the demands met by these groups may be envisioned when it is realized that from January 1, 1939, to October 1, 1939, contracts for aircraft and aircraft equipment had been signed amounting to \$197,311,981.74. This sum included amounts from both 1939 fiscal year and the 1940 special funds.

In spite of expansion activities, however, there were a number of development activities involving improvements on existing equipment as well as completely new equipment. Among these the following are of interest:

A major problem of the past several years has been the prevention of excessive vibration and flutter in the modern high-performance airplane. In order to solve these problems more capably, a separate vibration and flutter unit was established in the Aircraft Laboratory with a group of specialists giving complete time to these projects. A report on wind tunnel flutter research was completed and favorably received by the industry. A simple method of calculating flutter speeds of tail surfaces was developed from study of the wind tunnel test data. A model was designed to investigate flutter problems in twin-fin and rudder airplanes. Complete vibration surveys were made on 33 airplanes submitted for test or evaluation.

Experiments were continued in the automatic flight and landing project, and greatly improved results are expected with the installation of the automatic flight and landing equipment in the recently delivered C-40B tricycle landing gear airplane which is to be used exclusively for these experiments.

The famous Sperry automatic pilot developed for the Air Corps at the request of the Materiel Division is undergoing experiments leading to the reduction of size and the conservation of instrument board space. Features are also being incorporated which will, it is hoped, improve its use for automatic flight and landing operations.

Development of auxiliary power plants has been an important feature during 1939. A 150-hour endurance test was completed on a 12-kva, alternating current auxiliary power plant and a similar test started on a 5-kw. direct current unit. With the additional equipment required for the operation of large airplanes, these power plants have been found increasingly necessary to supplement the power furnished by the main motors. Auxiliary power plants besides furnishing power for the operation of

struments are used for the operation of landing gear, flaps, bomb bay doors mechanisms, and auxiliary pumps.

The application of stainless steel to the complete structure of an airplane is being determined. This action is the direct result of experiments performed on stainless steel wings and fuel tanks by the Materiel Division. Performance of stainless steel wings purchased for the OA-40 airplanes proved satisfactory except for some minor corrosion in the smaller fastenings. In these tests the airplanes were given an average flying time of 140 hours. Seam welded stainless steel fuel tanks were also constructed and installed in Pursuit airplanes at France Field where corrosion of metals is normally greater than at other stations. These tanks were in excellent condition after approximately 18 months' service. Further experimental work on high tensile sheet is being carried on to improve yield strength and modulus of elasticity.

Photographic projects have received wide attention during the past year. Suitable photographs for multiplex stereoscopic projection and tactical mapping have been obtained and tests are being conducted to develop large-scale prints suitable for lithographic reproduction, thereby permitting their use as substitutes for maps. Color photographic equipment has been under concentrated experimental development, as it is considered that this type of photograph would be of great value in the detection of camouflage. Experiments in night photography have also shown progress. Changes in the types of photoflash bombs to permit a greater number of photographs per mission have been initiated. A 60-inch telephoto lens mounted on a K-10 camera body has been tested. If successful this camera will be used with infra red film for high-altitude and long-distance large-scale photography. Experimentation has also progressed in equipment designed to increase the efficiency and production rate of photographic prints in the laboratories, field, and airplane. All new engines are so designed as to take advantage of the high octane fuels which are constantly under experimentation and improvement.

Carburetors, vacuum pumps, fuel pumps and gear boxes have also been improved. Thirty-one propeller tests were completed, including electric whirl tests, engine torque stand, flight, and vibration stresses test. Propellers which permit gunfire through the center of the hub have been under investigation, and satisfactory progress has been reported upon controllable propellers, including feathering features. Development of a four-blade propeller of larger size was initiated to supply demands imposed by high-powered engines operating at altitude on high-speed aircraft. Continued development of propeller thrust meters combined with torque meters will permit the accurate determination of propeller efficiency in flight and provide information heretofore almost impossible to obtain. Recognition of the importance of ice elimination equipment is acknowledged by the conducting at the Materiel Division of a brief course of instruction in its operation for an officer and a mechanic from each of the

four main air depots. A device for automatically starting and stopping de-icing and anti-icing systems has been developed and is ready for service testing.

Further development of service trucks for a variety of purposes has continued. These trucks include a heavy-duty tractor for towing large airplanes, developing a drawbar pull in excess of 4800 pounds; a 68-ft. wrecking truck with a 10-ton capacity boom for salvaging purposes; a refueling unit consisting of two semi-trailer type tanks with a capacity of 4000 gallons each; and a photographic truck and trailer for the quick development in the field of films and processing of prints.

These are but a few of the many projects under research and development at the Materiel Division which are adding to the advancement of general aviation.

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CONSTRUCTION NEARING COMPLETION AT MAXWELL FIELD

Gradual completion of the barracks construction program is relieving the crowded housing condition now existing at Maxwell Field, Ala. Occupancy of these buildings by student officers attending the Air Corps Tactical School, enlisted men stationed there permanently, and about 700 recruits temporarily at Maxwell, pending transfer to other garrisons, is being effected as rapidly as they are completed.

The housing of enlisted men in two hangars and double decking of bunks in the older barracks temporarily solved the quartering question of the newly enlisted Air Corps soldiers. Eight of the new barracks are already being occupied by about 400 men of the 13th Air Base Squadron. Four more are being used by the 100 student officers attending the third short course at the Air Corps Tactical School, which commenced January 8.

A total of twenty-six buildings are being rushed to completion. They are one-story, steam heated buildings, of hollow tile construction, stucco covered, with screened porches, and are a distinct departure from the squadron type of barracks. Occupancy is five per large room with interconnecting bathrooms for each two rooms; they also contain built-in lockers for clothing. Enlisted men now quartered in these barracks have pronounced them "keen".

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AIR CORPS EXHIBIT AT BOLLING FIELD

In preparation for an aircraft show to be held at Bolling Field, D.C., on January 19th and 20th, 1940, the new hangars have been vacated and the floors repainted. The hangars will house the exhibit the Air Corps had at the New York World's Fair, as well as other recent developments in aviation.

The principal purpose in holding this show is to acquaint members of Congress with the recent progress made in military aviation.

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A Congressional party, consisting of Senator Elmer Thomas, Congressmen Paul W. Shafner and J. Starnes, departed from Bolling Field, D.C., on December 20, 1939, for San Juan, Porto Rico, for the purpose of inspecting the new activities in Puerto Rico. The medium of transportation was a C-39 airplane, piloted by Capt. M.C. Woodbury, Air Corps. W-8335, A.C.

YOUTHS OF NORTHWEST EXCEL IN PHYSICAL QUALIFICATIONS FOR FLYING.

The Hamilton Field Flying Cadet Board, headed by Major Elmer E. Adler, Air Corps, recently returned to that field upon the completion of a swing through the Pacific Northwest area that kept said Board on the airways for a period of six weeks. The Board in its "Flying Office," the C-39 Transport, covered Montana, Eastern Washington, Idaho and Utah.

Major Adler, the president of the Board, reports a very successful tour. Of 361 applicants, 189 were found to have the required qualifications. The colleges visited and the number of qualifications are as follows:

Montana State College.....	25
Montana State University.....	20
Gonzaga.....	5
Washington State.....	24
University of Idaho.....	35
Eastern Washington College.....	7
University of Utah.....	44
Brigham Young.....	15
Utah State Agricultural College....	14

Eleven applicants, listed as being temporarily disqualified, will be accepted when they will have removed some minor physical disability.

"It is a fact well worth noting," stated Captain Junius P. Smith, medical officer with the Board, "that in the Pacific Northwest States our average of 52% physically qualified far exceeds the national average of 20 to 25 percent. Our evidence would seem to show that the western boy whose life is spent largely out of doors is a better all around physical specimen than the eastern or city boy."

In keeping with the policy of the Chief of the Air Corps, men less than college graduates were discouraged from applying until they had completed their college training. This materially reduced the number of applicants. However, it materially raised the standard of education among the group.

In their contact with college presidents and deans of men, the Board, Major Adler said, found a receptive, appreciative and entirely cooperative attitude.

The training offered by the Air Corps in its program of Flying Cadet recruitment leading toward commission in the Reserve, and in many cases the Regular Army, provides for the graduating members of the student bodies of these colleges a profession and stabilizing influence in life which, due to the economic situation, many of them would not gain in any other way. They are being provided a career in a new science which offers them, free of charge, and for which they are paid adequately for their time, a career in a not yet crowded profession.

The members of the Flying Cadet Board,

in addition to Major Adler and Captain Smith, were Captain James H. Wallace, Air Corps, Staff Sergeant George J. Parker, Sergeant Lloyd F. McLain and Private Jerry Mason.

The Board will take to the air again in the Spring of 1940, when it will cover the Pacific Coast from Seattle to Los Angeles, stopping at all colleges and universities en route.

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LANGLEY FIELD OFFICERS COMPLETE TACTICAL SCHOOL COURSE.

Eleven Langley Field officers recently completed three months of training at the Air Corps Tactical School, Maxwell Field, Ala., and returned to their home station to resume duty with various tactical organizations, viz:

Major Malcolm Stewart, Headquarters and Headquarters Squadron, Second Wing; Captains Herbert E. Rice, 3rd Observation Squadron; William C. Bentley, Jr., 96th Bombardment Squadron; Ward J. Davies, Post Exchange; Joseph A. Bulger, 8th Pursuit Group, 1st Lieuts. Francis E. Griswold, 35th Pursuit Squadron, and James Sutton, Hqrs. and Hqrs. Squadron, Second Bombardment Group. Others who were granted ordinary leaves and arrived later at Langley Field from the Tactical School were Captains Neil B. Harding, 20th Bombardment Squadron, Wentworth Goss, Hqrs. and Hqrs. Squadron; 1st Lieuts. J. E. Lacey, 2nd Weather Squadron; Carl W. Carlmark, 20th Bombardment Squadron, and John A. Feagin, 96th Bombardment Squadron.

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FARM BOY'S EDUCATION TAKES RAPID STRIDE FORWARD.

Colonel John F. Curry, Commanding Officer of Hamilton Field, Calif., relates an amusing incident.

Recently, while walking from Headquarters Building, he passed a young soldier who failed to recognize him and his rank in the accepted military manner. Colonel Curry stopped the boy, who was obviously a member of the Recruit Detachment, and discussed the matter of military courtesy. After a lecture of several minutes, the boy pained and surprised, stuck his neck out just a wee bit farther and said:

"Look here now, boss, do you mean to tell me that I gotta salute everyone of you fellers with the pink pants?"

The "Education of a Soldier" progressed rapidly and without delay.

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Class 40-A of 219 members was transferred to Kelly Field, Texas, on December 19, 1939, as the first class graduated from Randolph Field, Texas, under the new expansion program.

V-8335, A. C.

PILOT TRAINING UNDER THE EXPANSION PROGRAM
By the Randolph Field Correspondent

An Air Corps of 5,500 airplanes by June 30, 1941, was the goal set by Congress last summer before adjournment. In addition to building the planes, training large numbers of mechanics to maintain them, there was also the task of training pilots - pilots and officers who would come up to the rigid standards that have always been in vogue. "There will be no compromise with safety," was the watchword when the expanded pilot training program got under way on July 1.

Exactly half a year has passed since the task of Primary Flight Training was turned over to nine carefully selected civilian flying schools, located from Alabama to California. Randolph Field was turned into two basic flight training schools. Likewise, Kelly Field, gobbling up its neighbor, Brooks Field, for additional ground and air room, became two Advanced flight training schools.

Here's what has happened in the way of pilot training since July 1st. A total of 759 student pilots have been graduated from the nine civilian schools and sent to Randolph Field for training on BT-9's. They came in three almost equal increments - Classes 40-A, with 257, which reported to the "West Point of the Air" the last week in September; 40-B, with 238, which arrived November 15th; and finally, 40-C, with 264, completed primary training just at the close of the old year.

The total number of pilots-to-be who started primary training with these three classes was 1,181. Therefore, the aggregate percentage for these classes is 64.2%, who successfully leaped the first and most difficult hurdle on the course to a pair of wings.

Class 40-A already has spent its three months at Randolph Field, and is now at the Advanced School, Kelly Field. The members of this class started training in various sections of the country on July 1, with a total of 386 potential pilots, 257 reaching Randolph Field for basic training. Thus, 66.6% completed primary training; an average almost as high as the best ever established while Randolph Field was giving this first phase.

A total of 25 of them were unable to master the intricacies of the larger, powerful basic training planes at Randolph Field and were eliminated, leaving 232 to be transferred to Kelly Field, where they now are. In other words, 60% of the original class are now at the Advanced Flying School.

Class 40-B, which started primary training on August 15th, had 394 members the first day, but dwindled to 238 at

the end of the twelfth week, which also marked the end of the first phase of training. One casualty marred their record, when a Flying Cadet and his instructor were killed in a crash during primary training. Of the original class, 60.4% completed primary training.

This class is now at Randolph Field, more than half way through, with 225 of them still on the active list. Thus, it would appear that at least 55% of this class will also get to Kelly Field for advanced training.

The present "freshman" class at Randolph Field is Class 40-C, which has only recently reported. They started primary training with 401 members, gradually losing one now and then to the "Washing Machine," and wound up with 264 of them being transferred to Texas for the second phase. Thus, their percentage for the first phase was 65.8%, just a fraction of one percent lower than the record set by the first class under this new system.

And that's the statistical picture as painted for the first half year of the expanding Air Corps. Classes entering the civilian flying schools every six weeks number approximately 400. Thus far, 64.2% of them complete the first phase and come to Texas for basic and advanced training. Their future success, both at Randolph Field and Kelly Field, depends solely on their own ability to fly a military airplane as it should be flown. The watchword - "there is no compromise with safety," stands out in just as big letters as ever before.

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INSTRUCTION ON "B" STAGE AT RANDOLPH

During two weeks just passed, "B" Stage personnel at Randolph Field, Texas, conducted an instructors' school and a course for refresher students. Seventeen new instructors successfully completed the course of instruction and will be assigned to regular instruction duty. Twelve students completed the refresher course and were transferred to Kelly Field for further training.

The new class to operate from this side of the field has arrived and consists of 109 student officers and 153 Cadets. Regular work with these students began on January 2, 1940.

Most of the instructor personnel of "B" Stage enjoyed a few days' rest during the Christmas season so as to enable them to start the new year with renewed vigor.

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TACTICAL PROBLEMS FOR AIR CORPS PERSONNEL IN PANAMA.

"A large force of enemy bombers was reported headed for the Canal early in the morning of December 16th. The enemy airplane carrier which launched them was assumed to be speeding away seeking safety from the friendly bombers searching to destroy her." This was problem #3 of a series of problems inaugurated by Brigadier General Herbert A. Dargue, Commanding General of the 19th Wing in the Panama Canal Department.

This problem tied in with two previous educational exercises solved by designated groups of officers on duty in the Canal Zone. The first problem, which dealt with the above mentioned carrier, was to locate, identify and keep said carrier under surveillance. The second problem was to employ Pursuit in an effort to prevent an attack on the Canal by her bombers, all of which tied in with the third exercise which was to relocate and destroy the carrier.

These problems are issued to designated Groups in the Wing. A few days are allotted to prepare the solutions. Then, on the day of the assumed problem, a critique, conducted by General Dargue, at which several "spokesmen" of the different groups give discussions, is held at Albrook Field to go over all the solutions and ramifications of the situation. Like most all military problems, no approved solution is given, but the faults and weak points, as well as the strong points of each solution, are pointed out constructively.

These problems and critiques are very valuable technically and practically to all officers, but especially to the younger ones who will, under the expansion, be placed in positions where the same problems some day may be theirs under actual conditions.

It is realized by all, that the time element will not permit issuance of formal orders under actual conditions by the lower echelons, and that the orders will be put in trite but vital words. However, even with the opportunity to fly these simulated problems time and time again, the technical discussion thereof sets the minds of all thinking of every possible angle which all would be forced to consider under stress of actuality.

Just as the trained quarterback estimates and acts on the situation on the football field with no loss of time, so must the Air Corps commanders and pilots act under the strain of reality. The quarterback learns through discussions with the coaches and practice on the field. And if the quarterback is hurt, his substitute must carry on even though his knowledge is mainly through discussions. Yet the sub may become a great player and lead his team to victory.

So, too, with all the youngsters in the Air Corps who profit by these Wing Problems, which encourage and actuate logical imaginations, intelligent initiative and sound, practical principles of tactics.

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CHINESE OFFICERS VISIT KELLY FIELD.

Lieut. Colonel Shiao Chiang and 2nd Lieut. Wego Chiang, both of the Chinese Army, were visitors at the Air Corps Advanced Flying School, Kelly Field, Texas, during the week of January 2nd. Col. Chiang is Commandant of the Primary Flying Course of the Central Aviation School of China, and Lieut. Chiang is a representative of the National Military Council of China. These officers have been authorized by the War Department to observe the courses of instruction as given at the Air Corps Training Center.

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PERSONNEL INCREASE AT LANGLEY FIELD

Since the beginning of the Air Corps Expansion Program last June, a total of 1,792 recruits and 138 enlisted men, transferred from other branches of the service, arrived at Langley Field, Va.

In addition, 208 men arrived at the Virginia air base during the five-month period for assignment with various departments and detachments. The members of this latter group are classified as follows:

Ordnance Department, 22; Signal Corps aviation, 7; Air Corps, Hawaiian Department, 43; Air Corps, Panama Canal Department, 3; Medical Department, Langley Field, 8; Medical Department, Puerto Rico, 5; Medical Department, Southeastern Air Base, Tampa, Fla., 13; Quartermaster Detachment, Puerto Rico, 16; Quartermaster Detachment, Hawaiian Department, 27; and Quartermaster Detachment, Langley Field, 64.

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BOMBARDMENT PILOT TALKS TO ROTARY CLUB

Captain William D. Old, Air Corps, who piloted one of the B-17 Bombardment airplanes on the Good Will Flight to and from Rio de Janeiro, Brazil, told the members of the Hampton, Va., Rotary Club on December 12th that, in his opinion, the flight had accomplished its purpose. He cited the importance of the building up of a more thorough understanding between the people of the northern and southern countries, and said that the trips made by the military planes had furnished not only the spectacular, but the more lasting effects - that of making and cementing friendship.

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THE DECEMBER, 1939, PRIMARY FLYING CLASS

A total of 381 Flying Cadets, comprising 13 enlisted men of the Regular Army and 368 candidates from civil life, was selected by the Chief of the Air Corps to begin training at the nine civilian elementary schools selected by the War Department, in connection with the Air Corps Expansion Program, to give the initial three months' (Primary Stage) instruction.

The training at six of these civilian elementary flying schools began on December 30, 1939. In order to take full advantage of weather conditions, training at the Chicago School of Aeronautics, Glenview, Ill., began on December 14th; at Parks Air College, East St. Louis, Ill., on December 21st; and at the Lincoln Airplane and Flying School, Lincoln, Neb., on December 26th.

The names and residences of the students and the schools they are now attending are listed below, as follows:

Alabama Institute of Aeronautics, Tuscaloosa, Ala.

Plosser, Charles Robert, Jr.	Auburn, Ala.
Reid, John C.	Birmingham, Ala.
Smith, Robert Adelbert	Tuscaloosa, Ala.
Anderson, Sidney Rudolf	West Hartford, Conn.
Carroll, Thomas Matthew	Washington, D.C.
Woodbery, Richard C., Jr.	Orlando, Fla.
Wilson, Richard	Arlington, Mass.
Connolly, Edward B.	Auburndale, Mass.
Curtis, Gordon, Jr.	Boston, Mass.
Ellis, William Vincent	Brookline, Mass.
Conant, Hiram Francis	Cambridge, Mass.
McGee, Edward Francis, Jr.	Cochituate, Mass.
Miller, Sotir Larche	Hudson, Mass.
Dixon, Charles Righter, Jr.	New Boston, Mass.
Ege, John Frederick, Jr.	Revere, Mass.
O'Connor, Joseph Peter	Somerville, Mass.
Coulter, Herbert Westley, Jr.	South Easton, Mass.
Burke, Robert B.	Worcester, Mass.
Odum, Archibald Douglass	Dover, N.H.
Czeris, Edward	Manchester, N.H.
Clark, Alex	New York, N.Y.
Morris, Dallas Lester	Charlotte, N.C.
Wright, John Worth	Greensboro, N.C.
Newell, Hodge Albert, Jr.	Henderson, N.C.
Moore, Milton Murff, Jr.	Roanoke Rapids, N.C.
Slaughter, Edwin Francis	Roanoke Rapids, N.C.
Felton, Herbert J.	Norwood, R.I.
Caton, Frederick W.	Providence, R.I.
Marshall, Prevost	Anderson, S.C.
McCormell, James R.	Anderson, S.C.
Williams, Howard Wilson	Columbia, S.C.
Durham, Benjamin J., Jr.	Columbia, S.C.
Law, Henry Leland, Jr.	Greenwood, S.C.
Miller, Jesse Carroll	Laurens, S.C.
Parker, Alfred Wendall	Barre, Vt.
Bailey, Stanley Russell	St. Johnsbury, Vt.
Sanders, Edward Austin, Jr.	Quantico, Va.
McNevin, James R.	Green Bay, Wisc.

Chicago School of Aeronautics, Glenview, Ill.

Thomsen, John H.	Calumet City, Ill.
Green, Robert R.	Danville, Ind.
Willard, Rush H.	Bay City, Mich.
Milliken, Robert P.	Adrian, Mich.
Fowler, Stanley V.	Detroit, Mich.

Haley, Robert B.	Detroit, Mich.
Morgan, Chester H.	Detroit, Mich.
Stickney, John T.	Detroit, Mich.
Sultan, Henry Hirsch	Detroit, Mich.
Beth, Elman J.	Fremont, Mich.
Harris, David H.	Mt. Pleasant, Mich.
Kozarek, Stanley A.	Muskegon, Mich.
Howe, Everett B.	Waldron, Mich.
Bury, Kermit N.	Madison, Wisc.
Thomas, Gordon F.	Madison, Wisc.
Malanka, Arthur F.	Milwaukee, Wisc.
Schneider, Arthur L.	Milwaukee, Wisc.
Melcher, John N.	Oconomowoc, Wisc.
Malzahn, Arden E.	Wisconsin Rapids, Wisc.

Dallas Aviation School & Air College Dallas, Texas

Lynch, Claude E.	Fayetteville, Ark.
DuBose, Sam H.	Lewisville, Ark.
Hinton, Joe K.	Nashville, Ark.
Barron, Enid Nall	Swifton, Ark.
Fuller, Henry Walter	Coral Gables, Fla.
Kraemer, John Jacob	Miami, Fla.
Dean, Charles Woodrow	Vero Beach, Fla.
Killam, Robert Grayson	W. Palm Beach, Fla.
Kendrick, John Thomas	Atlanta, Ga.
Darby, George C., Jr.	Atlanta, Ga.
Watson, Theodore Hoffman	Atlanta, Ga.
Parks, Arvil Clifford	Ellijay, Ga.
DeLong, Frank Wiley, Jr.	Gainesville, Ga.
Bennett, Wm. Walter, Jr.	Macon, Ga.
Spivey, Alver Kenneth	Rome, Ga.
French, Ira V.	Chesterfield, Ind.
Grant, Boyd Sutcliff	Bastrop, La.
Peck, George W.	Detroit, Mich.
Edwards, Richard W.	Minneapolis, Minn.
Forsyth, Allen P.	Minneapolis, Minn.
Ely, Joel Richard	Clinton, Miss.
Meenagh, William F.	Bronx, N. Y.
Hilburn, Woodie B., Jr.	Bladenboro, N.C.
Pascucci, Dominick A.	Philadelphia, Pa.
Griffith, James J., Jr.	Kingsport, Tenn.
Evans, Richard Ernest	Knoxville, Tenn.
Blackburn, Charles Blanton	Memphis, Tenn.
Martin, Alan K.	Nashville, Tenn.
O'Connor, John Clinton	Nashville, Tenn.
Jackson, Clarence Everette	Oneida, Tenn.
Kintner, Guy G., Jr.	Waverly, Tenn.
Glenn, Fletcher M.	Amarillo, Texas
Ramsey, George W.	Austin, Texas
Alford, David G.	Baird, Texas
Mostyn, Thornton J.	Conroe, Texas
Dorris, Louis L.	Jacksonville, Texas
Hill, Charles O.	Decatur, Texas
Armstrong, Lorraine F.	Kingsbury, Texas
Price, Sterling D. III	Houston, Texas
Schuck, Francis J.	Fredericksburg, Texas
Latham, Steve	Mason, Texas
LeNair, George B., Jr.	Marlin, Texas
Giddings, Charles H.	Munday, Texas
Dysart, Billy W.	Plainview, Texas
Depmore, Daniel B.	San Antonio, Texas
Derrick, Hugh A.	San Antonio, Texas
Rumsey, Herman	San Antonio, Texas
Van Dersarl, Jules	San Antonio, Texas
Vitek, Richard D.	San Antonio, Texas
Britt, Jimmie W.	Welch, Texas
Coker, Tom B., Jr.	Westbrook, Texas

Owen, Albert H., Jr.	Wichita Falls, Texas
Baker, Hickman T.	Wink, Texas
Griffith, Frank T.	Morgantown, W. Va.
Jones, Frank G.	Morgantown, W. Va.

Grand Central Flying School, Glendale, Calif.

Conrad, John H.	Alameda, Calif.
Kappeler, Frank A.	Alameda, Calif.
Folsom, Donald E.	Bell, Calif.
Hoffman, Arthur E.	Beverly Hills, Calif.
Hinton, Bruce H.	Burbank, Calif.
Roberts, James F., Jr.	Burbank, Calif.
Burnett, Robert F.	Buttonwillow, Calif.
Smith, J. Lawrence	Carpenteria, Calif.
Stewart, James C.	Corona, Calif.
Betts, Howard E.	Davis, Calif.
Rue, Rolland H.	Los Angeles, Calif.
Olson, Allan G.	Maywood, Calif.
Jamison, Donald C.	Porterville, Calif.
Meyers, Jack M.	Roseville, Calif.
Burger, John R.	San Jose, Calif.
Fensler, Robert W.	Tule Lake, Calif.
Maus, Calvin D.	Van Nuys, Calif.
Senften, Harold G.	Castleford, Idaho
Sawyer, Charles W.	Emmett, Idaho
Ryan, James T.	Kellogg, Idaho
Miller, Robert W.	Moscow, Idaho
Davis, Thomas J., Jr.	Butte, Mont.
Mitchell, Samuel A.	Helena, Mont.
Kemp, James D.	Ronan, Mont.
Call, Woodrow W.	Ogden, Utah
Pack, Jack N.	Salt Lake City, Utah
Thorup, Louis G.	Salt Lake City, Utah
Mason, Albert L.	Laramie, Wyo.
Ryan, Carl A.	Rawlins, Wyo.
Houx, Frank L.	Sheridan, Wyo.

Lincoln Airplane & Flying School, Lincoln, Neb.

Nunn, Robert D.	Atlantic, Iowa
Polking, Warren A.	Breda, Iowa
Muhl, Frederick E.	Fort Dodge, Iowa
Miller, Marion A.	Gray, Iowa
Tesla, William M.	Iowa City, Iowa
Baumgardner, Bruce K.	Le Grand, Iowa
Harrington, John C.	Cambridge, Kans.
Heavner, John T.	Emporia, Kans.
McAnany, Robert A., Jr.	Shawnee, Kans.
LaFrenier, Paul J.	Ishpaning, Mich.
Tallos, Wallace A.	Minneapolis, Minn.
Nygren, Gordon E.	St. Paul, Minn.
Schumacher, Roman T.	Shakopee, Minn.
Foley, Robert L.	Wabasha, Minn.
Floyd, Harold D.	Boonville, Mo.
Johnson, Donald W.	Dunning, Nebr.
Voight, Robert W.	Lincoln, Nebr.
Lower, Raymond A.	Omaha, Nebr.
Lohze, Lester John	Alamo, N.D.
Netcher, Thomas G.	Grand Forks, N.D.
Reich, Glenn A.	Tripp, S.D.

Parks Air College, East St. Louis, Ill.

Hammer, Max C., Jr.	Cairo, Ill.
Inskip, Charles Wilson	Champaign, Ill.
Campbell, Murdoch William	Chicago, Ill.
Forman, Jules Lewis	Chicago, Ill.
Hoss, Robert J.	Chicago, Ill.
Krupicka, Joseph J., Jr.	Chicago, Ill.
Kurek, Adolph	Chicago, Ill.
Kush, Arthur John	Chicago, Ill.
McCarthy, James J.	Chicago, Ill.
Polansky, Charles A., Jr.	Chicago, Ill.
Oranoe, Albert	Chicago, Ill.

Brouk, Robert Ralph	Cicero, Ill.
Teberek, Raymond George	Cicero, Ill.
Talmage, Ernest F., Jr.	Clinton, Ill.
Ruse, John O.	Congress Park, Ill.
Schou, Roald Amundsen	Escondido, Ill.
Campbell, Archibald, Jr.	Evanston, Ill.
Robinson, John Leach	Jacksonville, Ill.
Mathews, Joseph Clarke	Marissa, Ill.
Blameuser, Richard P.	Niles Center, Ill.
Moulder, Andrew Bayard	Oak Park, Ill.
Smith, Ellis William	Peoria, Ill.
Wilson, Willard Wendell	Paxton, Ill.
Alison, Robert F.	Quincy, Ill.
Hathaway, Clifford M., Jr.	Springfield, Ill.
Goff, Charles G.	Three Rivers, Ill.
Allers, Howard Clinton	Cape Girardeau, Mo.
Bess, Waldo Kipling	Cape Girardeau, Mo.
Riehl, Robert Auten	Frederickston, Mo.
Fowler, Clarence Charles	Jefferson City, Mo.
Huttig, Jack Wilfred	Kansas City, Mo.
Santoro, Leonard V.	Kansas City, Mo.
White, Richard James	Kansas City, Mo.
Boggs, Raymond W.	St. James, Mo.
Readey, John Vernon	St. Louis, Mo.
Fuchs, Ray Gale	Webster Grove, Mo.
Kane, Kimberlin J.M.	Wright Field, Ohio

Ryan School of Aeronautics, San Diego, Calif.

Johnson, James K.	Bisbee, Ariz.
Schweikart, Wiley	Buckeye, Ariz.
Akers, Ernest A.	Phoenix, Ariz.
Kmell, Hugh F.	Phoenix, Ariz.
Moss, Orville J.	Somerton, Ariz.
Horne, Richard G.	Tucson, Ariz.
Dymock, John S.	Warren, Ariz.
Holmquist, George W.	Bakersfield, Calif.
Peckard, Peter L.M.	Bakersfield, Calif.
Sellers, Leonard D.	Bakersfield, Calif.
Keller, Charles R., Jr.	Camarillo, Calif.
Grund, William F.	Chula Vista, Calif.
Randolph, Richard L.	Delano, Calif.
Ridley, Thomas M.	Escondido, Calif.
Ogas, Bernard V.	Glendora, Calif.
Gilmour, Hugh B.	La Crescenta, Calif.
Jones, William A.	Ontario, Calif.
Petersen, Malcolm E.	Petaluma, Calif.
Parry, Willard J., Jr.	Piedmont, Calif.
Denny, Sherman E.	San Diego, Calif.
George, Walter R.	San Diego, Calif.
Heryot, Frank C.	San Diego, Calif.
McAuliff, Harold C.	San Diego, Calif.
Settle, James W.	San Diego, Calif.
Eldridge, Arthur C.	San Jose, Calif.
Foat, Harland H.	San Pedro, Calif.
Carlson, Leonard F.	Santa Barbara, Calif.
Carter, Wesley E.	Santa Barbara, Calif.
Reid, Angus G.	Santa Barbara, Calif.
Smyth, Stanley S.	Santa Barbara, Calif.
McKee, Charles D.	Fort Clayton, C.Z.
Winter, Clarence R.	Boulder, Colo.
Eliker, Hadley B.	Denver, Colo.
Jochim, LaVergne C.	Lakewood, Colo.
Jones, Richard G.	Loveland, Colo.
Martin, Robert W.N.	Carlsbad, N.M.
Lovorn, Floyd L.	Portales, N.M.

Spartan School of Aeronautics, Tulsa, Okla.

Dobrusky, Ralph E.	Denver, Colo.
Curtiss, Gilbert L.	Bridgeport, Conn.
Manwiller, Alfred A.	Ames, Iowa
Davenport, Leland A.	Davenport, Iowa
Abernathy, Louis M. Jr.	Arkansas City, Kans.

Blackwell, Jack Jean, Texas
 Randolph Field, Texas
 Kowack, Joseph F. New York, N.Y.
 Brooks Field, Texas
 Ziegler, Philip R. Milwaukee, Wisc.
 - Randolph Field, Texas

Grand Central Flying School
 Lockwood, Bert J., Jr. Los Angeles, Calif.
 March Field, Calif.

Parks Air College
 Wheat, Henry A. Mt. Vernon, Ind.
 Belleville, Illinois
 Singer, William S. St. Louis, Mo.
 East St. Louis, Ill.

Spartan School of Aeronautics
 Johns, Forest R. Johnstown, Pa.
 Denver, Colorado.

Allan Hancock College of Aeronautics
 Swisher, Robert F. Pocatello, Idaho
 Hamilton Field, Calif.
 Grenier, Paul G. New Bedford, Mass.
 Albrook Field, Canal Zone
 Briner, Howard D. Honolulu, T.H.
 Hickam Field, T.H.
 Worth, Ralph R. Malden, Mass.
 Wheeler Field, T.H.

In the matter of representation of native sons in the December, 1939, Class, California is far ahead of all other States with her unprecedented total of 70 students, this constituting 18% of the entire class. The State of Texas is runner-up, with 33 students, followed by Illinois and New York, with 27 each; Oklahoma, 18; Pennsylvania, 16; Massachusetts, 15; Michigan and Missouri, 13 each; Wisconsin, 9; Georgia, Iowa and Minnesota, 8 each; Arizona, New Jersey, Ohio and Tennessee, 7 each; Colorado, North Carolina, and South Carolina, 6 each; Florida, Arkansas, Idaho and Washington, 5 each. None of the other States are represented by more than four students.

Chicago, Ill., leads all other cities represented in the above Class, with 9 students, followed by Los Angeles, Calif., with 8; New York and Detroit, 6 each; San Antonio, Texas, and San Diego, Calif., 5 each; Minneapolis, Minn., and Santa Barbara, Calif., 4 each; Atlanta, Ga.; Milwaukee, Wis.; Salt Lake City, Utah; Kansas City, Mo.; Brooklyn and Rochester, N.Y.; Oklahoma City, Okla.; Bakersfield, Oakland and Pasadena, Calif., 3 each. None of the other cities is represented by more than two students.

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HICKAM FIELD CONDUCTS COURSE OF INSTRUCTION FOR NONCOMMISSIONED OFFICERS.

The News Letter Correspondent at Hickam Field, T.H., states that the recent sudden increase in grades and ratings within the 5th Bombardment Group, while a pleasant surprise to many of us, was not wholly unexpected and did not disrupt the smooth operation of the Group. In anticipation of such an increase in the noncommissioned officers' ranks, this Group last February organized a course of instruction for noncommissioned officers. This course, conducted by each squadron in the Group, was given to all noncommissioned offi-

cers assigned. The course consisted of eight periods of one hour each and covered the following subjects:

The Soldier, and what is expected of him.
 Organization of the Army, Air Corps, and chain of command.
 The purpose of the Noncommissioned Officer, his appearance and bearing.
 Military Courtesy, Military Discipline, and Esprit de Corps.
 Paper work, Administrative and Technical.
 Military Training, drill and the exercise of command.
 Specialized duties performed by noncommissioned officers of the Air Corps.
 Guard, its importance, function, and ceremonies pertinent thereto.
 Military publications, their classification, and function.

As a result of this course, the majority of the enlisted men promoted in grade experienced little difficulty in fitting themselves into their positions of increased responsibility. Mainly for the benefit of those privates promoted to corporal and sergeant (and there were many) who had not taken the course in February, and some new arrivals in the Group, the course now is being repeated. The current class, including a total of 33 new Sergeants and 31 new Corporals, which began on November 27, 1939, was to be completed prior to December 23, 1939.

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COLONEL LACKLAND PROMOTED TO BRIGADIER GENERAL By the Kelly Field Correspondent

The President, on December 21, 1939, appointed Colonel Frank D. Lackland, Commandant of the Air Corps Advanced Flying School at Kelly Field, Texas, a Brigadier General in the Air Corps, to succeed Brigadier General Jacob E. Fickel, who has been Commanding General of the First Wing of the GHQ Air Force at March Field.

General Lackland, for many years one of the Air Corps' most prominent officers, has held many key assignments and contributed much toward the present high standard of the Army Air Corps. First commissioned in 1911, he served in the Infantry and Signal Corps until 1917, and then in the Air Service and the Air Corps. General Lackland is a graduate of the Air Service Engineering School (1921), the Air Corps Tactical School (1929), and the Command and General Staff School (1931). During the period since the War, General Lackland has commanded the Air Depots at Maxwell Field and Duncan Field; has been Air Officer of the 8th Corps Area; has organized and commanded both the Third Attack Group and the Twelfth Observation Group; has been Chief of the Field Service Section of the Air Corps Materiel Division at Wright Field, and at the time of his appointment was Commandant of the Air Corps Advanced Flying School at Kelly Field.

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Brigadier General Jacob E. Fickel, Assistant to the Chief of the Air Corps, was relieved from assignment and duty as Wing Commander, 1st Wing, March Field, Calif., and assigned to duty as Chief of Air Corps, Washington, D.C.
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THE NEW SET-UP AT AIR CORPS ADVANCED FLYING SCHOOL
By the Kelly Field Correspondent

Official orders received at Kelly Field, Texas, on January 5th, ordered recently promoted Brigadier General Frank D. Lackland to assume command of the First Wing, General Headquarters Air Force, with headquarters at March Field, Calif. General Lackland turned over the reins of command to Colonel Eugene H. Lohman, whose staff has Major Isaiah Davies as Assistant Commandant; Major George M. Palmer in command of Brooks Field; Major Harvey W. Prosser as Kelly Field Executive; Captain David M. Schlatter as Director of Flying, and Captain Philip D. Coates as School Secretary.

As Commanding General of the First Wing, General Lackland will be directly responsible for the Air Corps' scheme of national defense on the entire West Coast. Supplementing the brief statement of General Lackland's military career, which appears on page 10 of this issue of the News Letter, it may be stated that over 15 years of his military service was spent in Texas. Stationed at Kelly Field for the past two years as Commandant of the Air Corps Advanced Flying School, General Lackland initiated the present extensive expansion program in the Flying School while actively participating in flying missions. In turning over his command to his past assistant, Colonel Lohman, who has cooperated in the progress of the expansion, it was General Lackland's conviction that his successor will see that program through to a successful completion.

To Colonel Lohman now falls the difficult task of executing the initiated plan. By February 15th, Colonel Lohman, as Commandant, will be responsible for training seven times as many Flying Cadets as were here a year ago today, plus as many new recruits as he now has older enlisted men. This will be no easy task at best. The new Commandant's many years of troop service will certainly aid him in accomplishing his mission.

Much the same as his predecessor, Colonel Lohman has seen a considerable portion of his service in Texas, having been commissioned at Fort Sam Houston in 1911 as a Cavalry officer. Since joining the Air Service, he has returned to Kelly Field twice, and once to Dodd Field, Fort Sam Houston, holding key positions. Besides Cavalry and Air Service duty, Colonel Lohman has five years of Signal Corps experience from which to draw. He is a graduate of the Air Corps Tactical School, also of the Command and General Staff School. He is rated as a Command Pilot, a Military Air Pilot, and as a Combat Observer.

Colonel Lohman is exceptionally well suited for the position of Commandant, due to his all-around ability.

His service with the 13th Cavalry on the Mexican Border, from Columbus, New Mexico, to Alpine, Texas, was followed by service with the 4th Cavalry in Hawaii, where he was detailed to the Signal Corps. Upon his return to the States, he served with the 4th Division Signal Battalion, Monterey, Calif., and at Camp Greene, Charlotte, N.C. Then he was transferred and commanded the only mounted Field Signal Battalion at Fort Bliss, Texas, from where he was assigned to Washington, D.C., in the Purchase, Storage and Traffic Branch of the Signal Corps. He then went to Camp Upton, New York, as Commanding Officer of the Remount Depot, following which he was detailed as Professor of Military Science and Tactics at the New Mexico Institute, Roswell, New Mexico. In October, 1920, he was detailed as a student in the Air Corps Primary Flying School at March Field, Calif., and took his advanced training in the Observation Section at Post Field, Fort Sill, Okla., in 1921, and where he also graduated from the special Field Artillery Course for aerial observers.

Upon graduating from these schools, he transferred to the Air Corps and became Director of Training of the Observation School at Post Field. In 1922, when all schools were consolidated at Kelly Field, he brought the school from Post Field to Kelly Field and became the Director of the Observation Section. Since then he has commanded the Air Corps at Aberdeen Proving Ground, Maryland; Albrook Field, Panama Canal Zone; Dodd Field, Fort Sam Houston, Texas; and he has served as Executive Officer at March Field, Calif. For the past three years he has been the Assistant Commandant of the Air Corps Advanced Flying School. His appointment as Commandant is a great pleasure to his many Army and San Antonio friends, and they wish him the best of success.

The following Kelly Field officers have been advanced to comprise Colonel Lohman's new staff:

Major George M. Palmer, who takes command of Brooks Field, a sub-post of Kelly Field, has been on duty at Kelly Field for several years as Squadron Commander and then as Executive Officer under General Lackland. His task of organizing and operating the additional sub-post and flying training section there is a considerable one.

Major Isaiah Davies, who succeeds Colonel Lohman as Assistant Commandant of Kelly Field, has been for several years on the staff of the Advanced Fly-

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ing School as Director of Flying. It has been under his efficient direction that the training of all flying students at Kelly Field has been carried out.

Captain David M. Schlatter will succeed Major Davies as Director of Flying. He has been the Chief of the Second Section, one of the four student training sections at Kelly Field, and has many years' experience in training flying students of the Air Corps.

Major Harvey W. Prosser succeeds Major Palmer as Executive Officer of Kelly Field. For the past year and a half, Major Prosser has been Secretary of the Advanced Flying School. Captain Philip D. Coates succeeds Major Prosser as Secretary.

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BEGINNING OF FLYING BY 22ND SQUADRON

December 5, 1939, marked the beginning officially of flying activities under the banners of the newly formed 22nd Bombardment Squadron, Hamilton Field, Calif. At 12:45 p.m., Major Hart and Captain Warren, pilots, with Lieuts. Sharp and Mueller as navigators and crew consisting of Tech. Sgt. Sheffield, Corporal Upchurch and Pvts. Larkin and Muelot, took off on a cross-country celestial navigation flight to San Antonio, Texas.

In addition, two other crews flew routine instrument checks. This was the first flying done officially by the 22nd Bombardment Squadron.

On December 18th, the 22nd took off on its first formation bombing mission. Contrary to the expectations and fond hopes of the rest of the 7th Bombardment Group, this newest addition to the Air Corps did a precise job of flying and pulled off a bombing mission that made the Group Commanding Officer very happy, indeed.

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BRAZILIAN OFFICERS VISIT LANGLEY FIELD

Seven Brazilian officers, who are at present on a good will tour of the General Headquarters Air Force air bases of the eastern and southern portions of the country, arrived at Langley Field, Va., by plane on December 6th to inspect the facilities of the peninsula airdrome.

Heading the delegation was Colonel A.V. Pederneiras, who was accompanied by Major J.S. Macedo, Captains R.C. Lucas, M.C. Vinheas, A.D. Cantalice, V.B. Bancellos and A.P. Bello. The group came from Maxwell Field, Ala., in an Army Transport piloted by Captain J.G. Fowler, with 2nd Lieut. W.A. Rambo as co-pilot.

Heading the group which welcomed the visiting officers at Langley Field that afternoon was Major General Delos C.

Emmons, Commanding General of the GHQ Air Force, others being Brigadier General Arnold N. Krogstad, Commanding General of the Second Wing, GHQ Air Force; Lieut. Colonel Robert Olds, Commanding Officer of the 2nd Bombardment Group; Captain Robert B. Williams, of the 49th Bombardment Squadron, and Captain Alva L. Harvey, of the 20th Bombardment Squadron.

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LANGLEY OFFICERS ATTEND CEREMONY COMMEMORATING FIRST AIRPLANE FLIGHT

Major Vincent J. Meloy, of the Base Public Relations Department, Langley Field, Va., and Major Dache M. Reeves, Assistant to the Assistant Chief of Staff, G-1, General Headquarters Air Force, returned on December 17th by automobile from Manteo, N.C., where they attended the ceremony commemorating the 36th anniversary of man's first flight in a craft heavier than air.

Major Meloy represented the Chief of the Air Corps, who was unable to attend the celebration, which has been held for the past quarter of a century by the Kill Devil Hill Memorial Association. Major Reeves also spoke briefly, describing personal experiences with the Wright Brothers during the earliest years in the bicycle shop at Dayton, Ohio, and also told about obstacles he had to overcome in the establishment of the noted Air Corps Museum at Wright Field, Ohio.

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NINETEEN AIR CORPS OFFICERS QUALIFY AS DEAD RECKONING NAVIGATORS

Nineteen Langley Field officers, who at this writing are assigned with the 21st Reconnaissance Squadron encampment at the Miami, Fla., Municipal Airport, were recently qualified and announced as dead reckoning navigators for General Headquarters Air Force, after having completed the required number of hours in instrument flying. Those who received certificates of qualification were Captain Herbert K. Baisley, 1st Lieuts. Jarred V. Crabb, Thomas N. Charles, 2nd Lieuts. John Hayden, Steele R. Patterson, William M. Reid, Baskin Lawrence, William David, Thomas M. Margrave, Charles W. Bicking, Raleigh Macklin, George Ireland, Paul D. Brown, Julian Bleyer, Willard Fountain, Stanley Zidiales, Delbert Hahn, Hardy Bullis and Francis Feeney.

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Major Earl S. Hoag, Air Corps, has been relieved from assignment and duty at March Field, Riverside, Calif., and assigned to Washington, D.C., for duty in the Office of the Chief of Staff.

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THIRD THREE-MONTHS' COURSE STARTS AT TACTICAL SCHOOL By the Maxwell Field Correspondent

Attendance at the third in a series of three-month courses at the Air Corps Tactical School, Maxwell Field, Montgomery, Ala., which began on Monday, January 8th, are 101 officers, 96 of whom are from the Air Corps, two from the Chemical Warfare Service, one each from the Infantry and Field Artillery, and Major Arturo Meneses, Chilean Air Force, who was authorized enrollment by a special Act of Congress.

The opening exercises were brief, and a short address of welcome was delivered by Colonel Walter R. Weaver, Commandant of the Air Corps Tactical School. Colonel Millard F. Harmon, Jr., in charge of the school instruction, followed with a brief outline of the curriculum, and Lieut. Colonel Sidney Erickson, Infantry; Lieut. Colonel Leo A. Walton and Major Muir S. Fairchild, Air Corps, directors in the ground arms, command staff and logistics, and air tactics and strategy departments, also discussed their divisions briefly. Texts, lesson material, maps and other equipment were then issued, and the normal schedule assumed, which was devoted to Ground Arms Tactics, with Major Alden H. Waite, Chemical Warfare Service, as the instructor.

The regular school program was resumed on January 9th and will continue for the duration of the course. Students are to attend classes mornings, and an average of two afternoons per week. The remaining afternoons are to be devoted to flying for part of the class and equitation instruction under the direction of Lieut. Colonel John C. Mullinex, Cavalry.

The only deviation in the program contemplated at present is a tentative visit to the Infantry School, Fort Benning, Ga., by air, on January 29th, to observe a demonstration of firing of Infantry and Field Artillery weapons by the 29th Infantry and 83rd Field Artillery.

Air Corps officers in attendance are:
Lieut. Colonel
Armin F. Herold

Majors
Joseph P. Bailey George G. Lundberg
Howard Z. Bogert Chas. D. McAllister
Walter K. Burgess Arthur J. Melanson
Frank L. Cook Walter T. Meyer
John L. Davidson Joseph T. Morris
Hugh C. Downey Dache McC. Reeves
James E. Duke Arnold H. Rich
William C. Farnum Oscar L. Rogers
John R. Glascock Glenn C. Salisbury
George W. Goddard Harold D. Smith
Winfield S. Hamlin Perry Wainor
William H. Hanlon Russell L. Williamson
Clarence F. Horton Harry C. Wisheart
Leonidas L. Koontz John Y. York
Lawrence A. Lawson

Captains

James R. Andersen	George V. Holloman
Fred L. Anderson, Jr.	Burton M. Hovey, Jr.
James W. Andrew	Paul M. Jacobs
Donald D. Arnold	Russell Keillor
Henry M. Bailey	Archibald M. Kelley
Oscar L. Beal	John P. Kenny
Donald W. Benner	Arthur J. Lehman
Bryant L. Boatner	Joseph J. Ladd
Ralph O. Brownfield	Mark K. Lewis, Jr.
Lambert S. Callaway	Richard C. Lindsay
Ray H. Clark	Donald R. Lyon
William T. Colman	Ezekiel W. Napier
Melie J. Coutlee	Edgar T. Noyes
Laurence C. Craigie	Lewis R. Parker
John C. Crosthwaite	Edward H. Porter
Edwin M. Day	John G. Salsman
Chas. H. Deerwester	Irving R. Selby
Thomas J. DuBose	Arthur LaS. Smith
James F. J. Early	Donald B. Smith
Robert L. Easton	George F. Smith
Linus D. Frederick	John A. Tarro
Richard W. Gibson	Clarence S. Thorpe
Chester P. Gilger	Howard M. Turner
John S. Griffith	Emery S. Wetzell
R.A. Grussendorf	M.C. Woodbury, Jr.
David D. Graves	

First Lieutenants

William J. Bell	Robert M. Lee
Mark E. Bradley, Jr.	P.G. Meisenholder
Carl A. Brandt	Paul G. Miller
Paul Burlingame, Jr.	James P. Newberry
Don O. Darrow	Harold L. Smith
Charles F. Densford	Karl E. Truesdell, Jr.
William C. Dolan	Casper P. West

Second Lieutenant

Thomas K. Hampton

Major March H. Houser, C.W.S.
Captain Charles L. Booth, F.A.
Captain Howell J. Jordan, Inf.
2nd Lieut. Ephraim M. Hampton, C.W.S.

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PROMOTION OF NON-COMS. AT RANDOLPH FIELD

Eight new Master Sergeants have been created at Randolph Field, Texas, in connection with the Air Corps expansion program. The promotion of these veteran noncommissioned officers, in addition to the advancement of 16 men to the grade of Technical Sergeant, made numerous vacancies in the lower grades.

Concurrent with the naming of the men to the first two grades, a total of 17 new Staff Sergeants received their warrant, while an additional 17 sergeants and 4 corporals were promoted.

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Major Thomas D. White, A.C., on duty in the Information Division, Office of the Chief of the Air Corps, has been assigned to Rio de Janeiro, Brazil, for duty as military attache and military attache for air to Brazil, effective on or about April 1, 1940.

---oOo--- 18335, A.C.

MOVEMENT OF 20TH PURSUIT GROUP TO WEST COAST
By the News Letter Correspondent.

1. SPECIAL ORDERS:

"In-quote." Pursuant to authority contained in letter AG (9-25-39), The Adjutant General's Office, dated October 26, 1939, Subject: "Movement of the 20th Pursuit Group," to the Commanding General, GHQ Air Force, Langley Field, Virginia, to the Commanding General, Third Wing, GHQ Air Force, to the 20th Pursuit Group, GHQ Air Force, Barksdale Field, Louisiana.

2. As we delve into the archives of our none too fertile minds to try to relate and record the things that actually happened in the short space of one month, we find the result rather confusing. Everything happened with such speed and accuracy it is impossible to include everything even while following the events with a pen.

3. The actual transfer began at 6:30 a.m., November 6, 1939, when the 55th Pursuit Squadron, under the leadership of Captain "Tex" Sanders, "took wings" for the westward flight. At 8:00 a.m., Captain Thomas W. McCauley led the 77th Squadron away from Barksdale in a "flurry" of roaring motors. One hour later, as Captain T. S. Olds led the 79th Pursuit Squadron off the Louisiana terrain, the 20th bid au revoir to Barksdale. Having based there for seven years there was not a universal feeling of joy in the Group as Barksdale faded away in the morning haze.

4. The move was as well planned as clock work. The first stop was Midland, Texas, where each individual squadron rapidly serviced their ships, and took off to make way for the squadron immediately following. The second stop was Tucson, Arizona, for lunch and servicing. All squadrons reached March Field intact in the early afternoon and had met with no unnecessary delay. It seemed that the trip really ended in temporary barracks, which, at that time were not equipped with heating facilities.

5. Nevertheless, everyone fared well enough to thaw out and take off at 10:00 a.m., November 7, 1939. At 11:25 a.m., the 20th Pursuit Group, led by its Commander, Lieut. Colonel Ross G. Hoyt, reached its new base on the beautiful and highly publicized California peninsula. On arrival, the 56 P-36's passed in review in front of the enormous hangar of the ill fated "Macon," extending an initial greeting to their new home and ending the 2,000-mile transfer of airplanes. The Group was warmly welcomed by Lieut. Colonel George L. Usher, the personnel of the 9th Air Base, the press, and approximately 1,000 spectators from the Bay Area.

6. As the housing situation was rather

acute, everyone met with some difficulty in securing a place to live before moving personal belongings from Louisiana. As there are only nine sets of quarters on the entire post and a limited amount of accommodations in the bachelor officers' quarters, practically the entire commissioned personnel found homes in nearby Peninsula towns.

7. The return trip was made in four B-18's and two C-39's from Barksdale and the San Antonio Air Depot, the everlasting bad weather preventing the trip from becoming too monotonous. It also made the trip rather long, to say the least.

8. On November 15, 1939, the entire personnel of the 20th Pursuit Group left Barksdale Field via train and automobile for "Sunny California" (courtesy of Chamber of Commerce). In charge of the train which carried some 189 enlisted men and their families were Captain "Tex" Sanders and Lieut. O. W. Lundie. It was these men who, upon arrival at Moffett Field on November 19, 1939, "started the ball rolling," unpacking boxes, crates, organizing messes, and caring for personal and squadron property. All in all, it was a big job. The entire Group occupied temporary barracks (splinter town), so a great deal of work was required. The main body of automobiles arrived the 20th, 21st and 22nd of November. It is a remarkable fact that the entire Group made this move without a serious accident, injury or loss, in air, on ground, or on rail. Considering the ever increasing number of 20th century "road hogs," and the fact that the proverbial "storm" seems to be in vogue this season, it's practically a miracle.

9. Now the once almost deserted Moffett Field is nothing short of a hive of activity, with formations roaring overhead, the clanking and banging of metal on metal as the crew chiefs work to keep the "little jewels" - our P-36's - in tip-top condition. Yes, the squadrons are "set up" and completely organized. Operations have begun, and each day our records show a remarkable decrease of time required to complete our training program.

"They said it couldn't be done, but" - well, one thing we brought from the South, besides our Group, was "Southern Hospitality." The 20th Pursuit Group extends an invitation, and the new address is Moffett Field. . . . subject to change without notice????

The 55th Pursuit Squadron, after having arrived at its new home, Moffett Field, is happy to announce that the recent transfer of property and personnel from its old home at Barksdale Field to

sunny California was accomplished in its characteristically efficient manner. The troop train, commanded by Captain H.L. Sanders, Commanding Officer of the 55th, arrived at Moffett Field about noon on Sunday, November 19th. Several days later, all departments of the Squadron had been set up and were functioning smoothly.

Some of the more colorful aspects of the transfer occurred upon the arrival of the airplanes over San Francisco after the long flight from Shreveport, La., when Lieut. Colonel Ross G. Hoyt led the entire Group of 56 airplanes over the Golden Gate Bridge and the business district of San Francisco in perfect formation. The appearance of the 20th Pursuit Group over the city was described as creating quite a sensation by local columnists, who disclosed the fact that ours was the first appearance of the Air Corps new Curtiss Pursuit ships in mass formation on the West Coast. Spectators gathered at Moffett Field to welcome the arrival of the Pursuiters and left with very favorable comments, after having witnessed the Group pass in review in the shadow of the enormous balloon hangar.

Incidentally, crew chiefs now find no trouble with regard to the disposition of the airplanes in the hangar. Actually there is estimated to be ample room for at least two more organizations the size of the 20th Pursuit Group.

Early on the morning of November 6, 1939, 57 P-36A and 2 B-10 airplanes of the 20th Pursuit Group took off from Barksdale Field for their new Base at Moffett Field, Calif. Among these were 17 airplanes and officers of the 79th Pursuit Squadron, commanded by Captain Thayer S. Olds, Air Corps.

The air echelon proceeded via Midland, Texas, and Tucson, Arizona, to March Field, Calif., where the officers remained overnight before flying to Moffett Field the following day. B-18 and C-39 airplanes, which were to ferry the pilots back to Barksdale Field, began the return trip soon afterwards. Due to inclement weather, the transports were delayed at points in Texas, and some of the officers completed the return trip by motor bus.

The enlisted men entrained at Barksdale Field at 3:00 p.m., November 15, 1939, for the trip to the new base. The route which was followed took them through Kansas City, Pueblo, Salt Lake City and Sacramento. Other enlisted members of the Group made the trip by automobile through El Paso, Tucson, and Los Angeles.

Having arrived at Moffett Field at 11:30 a.m., November 19th, the members of the Group found an excellent lunch waiting them, and immediately afterwards commenced unpacking. The following Thursday, November 23rd, was observed

as Thanksgiving Day.

Temporary offices for operations were set up, and preparations were made for flying. On Friday, December 1st, the Group was inspected by a party of Congressional members, and all planes in commission passed in aerial review.

All members of the 79th Pursuit Squadron demonstrated a high degree of efficiency and eagerness throughout the entire move. It is believed we should be justly proud of a task well done.

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GAS WARFARE DRILLS IN CANAL ZONE

With all Squadron schools at Albrook Field, Panama Canal Zone, conducting instruction in gas warfare, having completed such instruction, practical demonstrations on defense against gas attacks are now being given to all enlisted personnel under the direction of 1st Lieut. J.W. Twaddel, Air Corps, Base Ordnance Officer.

Demonstrations have been carried on of late with different groups being used every afternoon. The men are sent through a gas filled tent to show them the protection afforded by gas masks, and are making other tests in the field.

Most of the squadron schools lasted more than a month and took in numerous practical demonstrations.

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PROVISIONAL PRESIDENT OF PANAMA FLIES TO HIS COUNTRY IN B-17.

Albrook Field, Panama Canal Zone, was the scene of another Panamanian government official welcome, when Dr. Augusto S. Boyd arrived there on December 18, 1939, aboard a U.S. Army Air Corps B-17 "Flying Fortress." The pilot of this plane was Captain F.H. Robinson, with 1st Lieut. W.R. Robertson as co-pilot, and 2nd Lieut. J.B. Montgomery as navigator. The enlisted personnel aboard were Tech. Sgt. T.V. Martin, Engineer; Staff Sgt. A.C. Moore, Engineer, and Sergeant R.E. Junior, Radio Operator. Dr. Boyd was flown from Washington, D.C. to Panama to fill the post of Constitutional President of Panama, following the death of the President of that Republic earlier in December. Dr. Boyd was the Panamanian Ambassador to the United States. On his arrival, he was honored with a 21-gun Presidential salute. All Air Corps squadrons at Albrook Field turned out in uniform and side arms to act as guard of honor for the arriving dignitary.

First to greet Dr. Boyd as he stepped from the plane was Major General David L. Stone, Commanding General of the Panama Canal Department.

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Since July 11, 1939, Brooks Field has received 390 recruits, and Kelly Field 421. V-8335, A.C.

GENERAL CHANEY ASSUMES COMMAND OF FIRST ANTI-AIRCRAFT DEFENSE SECTOR.

By the Mitchel Field Correspondent

Brigadier General James E. Chaney, U.S. Army, who has been in command of Mitchel Field, N.Y., received an eleven-gun salute at 8:30 a.m., Tuesday, January 2nd, when he assumed command of the newly established First Antiaircraft Defense Sector, which covers the Northeastern portion of the United States from Detroit to the Virginia Capes.

Lieut. Colonel Carl W. Connell, Commanding Officer of the 9th Bombardment Group, escorted the General from his quarters to the field, where he took the salute while 210 commissioned officers and 2,500 enlisted men stood at attention.

The new defense unit was announced by the General Staff on December 20th, last. It is designed to coordinate the anti-aircraft guns, interceptor planes and signalling facilities of the area under a unified command similar to the systems protecting London, Paris and Berlin. The area affected was said to contain 80 percent of the war materials producing capacity of the nation.

Prior to the establishment of the new unit, the anti-aircraft guns were controlled by the Coast Artillery, the planes by the Air Corps and the warning facilities by the Signal Corps. The War Department made it clear that the new plan did not spring from any belief that the present range of Bombing planes had put the Atlantic seaboard in danger of attack, but explained that it would be "experience and the basis for future developments" along similar lines.

When the plan was announced it was said that it would become effective on January 1, 1940, and that General Chaney, then a Colonel, would be promoted to brigadier general on the same date.

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SUCCESSFUL RECRUITING AT CHANUTE FIELD

By the News Letter Correspondent

The Personnel Section of Chanute Field, under the guidance of Major Oscar L. Rogers, Air Corps, claims an unique peace-time record for recruiting. It is doubtful if the record set up by this office has been remotely approached by any other agency of the Military or Naval forces of the United States.

The recruiting campaign for the increased Air Corps commenced on May 1, 1939, and from the inauguration of the program to December 20th, 1550 applicants have been accepted for enlistment. In itself, the recruitment of such a force is outstanding, but the remarkable part of the feat is the high standards maintained in securing these soldiers. Each is a high school graduate and, therefore, qualified for admission

to the Air Corps Technical School, and not one cent was spent in securing these men.

Hundreds of applications were on file in the Personnel Office of Chanute Field from youngsters desirous of obtaining an aeronautical education gratis. Letters were sent to the applicants advising them that a vacancy existed in which they would be enlisted at Chanute Field, Rantoul, Illinois, provided they appeared for enlistment at the station by a given date. Of the many letters on file, two representative examples are quoted:

"I am writing concerning the Air Corps School at Chanute Field. I am 19 years old and I have a high school education. I have been told that these are the main qualifications, and if possible I would like to receive application papers. If it is not possible to send the papers, please forward information concerning the School."

The next letter quoted is unusual and interesting, in that it was sent by a high school superintendent from Albany, New York:

"We have several students who are interested in the technical end of the Air Corps. Would you please send us any circulars and catalogues which would be helpful to our students? Thank you for your cooperation in this matter."

Needless to say, these requests were promptly fulfilled. It has not been a particularly difficult job to "sell the Air Corps" in situations such as these. Not one, but dozens of similar requests were on file.

From August 1, 1939, to the present date, almost 3,000 column inches of known publicity appeared in newspapers throughout Illinois, Indiana and Iowa. The actual figures of column inches is unknown, as many of the editors failed to send the Public Relations Office clippings of their articles. It is believed a conservative estimate to fix 6,000 inches as the approximate figure for space used. The public has been sold on the idea of enlisting in the Air Corps as a means toward getting a technical education second to none, and one that was thorough and complete in every phase. The fact was stressed that enrollees would advance, after graduation, in proportion to their ability and initiative. No applicant has been specifically promised that he would be immediately entered in the Air Corps Technical School, but if the applicant possessed the necessary qualifications, Trade Tests indicated evidence of aptitude, initiative and willingness to study, he would be entered into a course of instruction within a reasonable time. All promises have been fulfilled to date. Perhaps the greatest recruiting stimulus has

been the advertising and promotion that the newly enlisted men themselves provided by writing home to their friends and selling them the idea of an enlistment in the Army Air Corps. They had found the Air Corps a swell place to acquire a technical education, good prospects for future advancement and a grand place to make new friends. No recruiting parties were sent out to secure these enlistments for service at Chanute Field. Alas! Mohammed came to the mountain!

Youngsters eagerly took advantage of the prospects of early entrance into the Air Corps Technical School and literally poured into Chanute Field from every State in the Union. Just about every conceivable form of transportation was employed to reach their destination, each young man financing his own way; the sole cost to the Government to this point being a letter to the applicant, advising that a vacancy existed at Chanute Field, in which he would be enlisted, provided he presented himself for acceptance by a specified date.

The magnificent record of securing 1550 recruits at no expense to the Government is beyond compare and largely due to the splendid opportunities offered by the Air Corps Technical School and the eagerness of eligible youngsters to associate themselves with aviation.

A series of radio programs, WINGS OF THE ARMY, under the direction of Major James E. Duke, Jr., Air Corps, Public Relations Officer, enlightened the radio audience as to the scope of activities carried on at the Technical School. Although all phases of topics covered by the programs were of a highly technical and specialized nature, they were presented in such a manner as to be clearly understandable to the layman. These broadcasts were prepared by the personnel on duty with the Department of Mechanics and the Department of Communications. The motion pictures did their bit, with the MARCH OF TIME leading the way with their Air Corps release "Soldiers With Wings." Movie-tone (20th-Fox) will shortly release an Air Corps feature. The "Soldiers With Wings" picture was well received by theater audiences, as it presented a comprehensive picture of what was going on behind-the-scenes. Newspapers, the radio, news-reels and periodicals all have lent their invaluable assistance in securing the applications from which recruits have been drawn.

Recruiting is continuing at Chanute Field at a feverish pace, and it is believed that when the story of recruiting is compiled, the efforts of this station will have been so prominent that they will shade the splendid record achieved by others, no less zealous in their attempts to attract excellent personnel for the Army of the United States. To the Personnel Sec-

tion of Chanute Field, for your unexcelled accomplishments, we salute you!

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A MESSAGE FROM YOUNG AIR ENTHUSIASTS By the Randolph Field Correspondent

To....All the Army Air Corps
From...Future Army Pilots.

A belated but nevertheless welcome Christmas greeting card is submitted below, exactly as received by the Public Relations Office, Randolph Field, Texas, the senders - two very good friends of the "West Point of the Air," whose youthful and enthusiastic correspondence was printed before in the Air Corps News Letter:

"A Merry Christmas
and a
Happy New Year

To.....All The Army Air Corps
From.....Future Army Pilots

Mario (Speed) DeMarcantonio
Frank (Fran) Scrippa

P. S. Hey, Cap. will you please send us the dope about us studying in our spare time for the exam so we can be flying in the dear old army."

(Editor's Note: Youthful Mr. Marcantonio is the writer who sent "Kisses to the General" in a recent epistle.)

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RANDOLPH FIELD OFFICERS ENROLL AT AIR CORPS TACTICAL SCHOOL.

Nine Air Corps officers, stationed at Randolph Field, Texas, were scheduled to join a large group of Regular Army officers shortly after the first of the new year at Maxwell Field, Montgomery, Ala., to enroll as students at the Air Corps Tactical School for the regular three months' course.

The officers who were to travel to Maxwell Field by military aircraft are: Captains James W. Andrew, Donald D. Arnold, Lambert S. Callaway, Thomas J. DuBose, Paul M. Jacobs, John P. Kenny, Ezekiel W. Napier, Arthur LaS. Smith and 1st Lieut. Casper P. West.

The course was scheduled to start on January 8th and, upon completion thereof, the officers enumerated will return to Randolph Field for duty.

Under Special Orders of the War Department, recently issued, the following-named Air Corps officers were ordered to Maxwell Field, Ala., reporting to the Commandant of the Air Corps Tactical School for duty: Major Phillips Melville, Capt. Flint Garrison, Jr., 1st Lieut. Dwight Divine, 2d, from Mitchell Field, N.Y.; Captain Walter L. Wheeler, Langley Field, Va.; 1st Lieut. John H.

(Continued on Page 19)

N-8335, A.C.

ETHYL CORPORATION STAGES DEMONSTRATION AT RANDOLPH FIELD.

Over 2,000 men were the guests of the Ethyl Corporation recently, during a five-day period, at their elaborate demonstration held in Hangar L, Randolph Field, Texas.

Vividly telling and illustrating the story of "Knock," the school, conducted by Mr. H.E. Cottrell, Clinic Manager, and Mr. W.R. Barnes, Automotive Engineer, was educational and interesting.

Arriving at Randolph Field at the invitation of Colonel John B. Brooks, who had viewed the Clinic at Camp Normoyle, several days were required to set up equipment. Thereafter, several groups attended the Clinic each day, with 2,000 attending in five days, including every officer stationed at Randolph Field. Colonel Brooks persuaded the Clinic managers to remain at Randolph Field in order that the new Flying Cadet class entering the school for the basic training course could view the demonstration.

Dealing primarily with motor tune-up and preventive maintenance, Mr. Cottrell used model motors to illustrate his points. During their stay at the field, the members of the Clinic worked with Randolph maintenance personnel on tune-up procedure.

In illustrating the procedure of proper tune-up, a car was placed on a dynamometer and operated at a speed of 50 m.p.h. Loads were placed on the dynamometer to represent grades and pulls. Mr. Cottrell's lecture at this point was confined to air fuel ratios under all states of operations and loads.

The entire personnel of the field voted the Clinic a huge success.

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MANY NEW NCO GRADES AT RANDOLPH FIELD

While the Expansion Program of the Air Corps has been felt in many ways in the past, nothing so tangible as the happenings of the period of November 26 to December 6, 1939, had been felt.

During that period, 446 promotions for noncommissioned officers were allotted to the six organizations on the field. Included in the several Special Orders was one that made 108 noncoms., believed by many "old timers" on the field to be one of the largest promotion orders in recent Army history.

The orders for this period included 2 First Sergeants, 154 Staff Sergeants, 114 Sergeants and 156 Corporals.

As one of the "old timers" put it: "There are so many new stripes in the outfit that you can hardly find a 'back' private to do room orderly."

Transferred from Randolph Field to Moffett Field, Calif., and Langley Field, Va., on December 16, 1939, were

405 specialists in the varied phases of Air Corps work, as part of the Air Corps Expansion Program. Included in this group transferred were noncommissioned officers.

Of the men transferred, 190 were assigned to Moffett Field and 215 to Langley Field. At the present time, 221 recruits are now undergoing recruit instruction, following which they will be assigned to duty. In the past six months, over 500 recruits have completed their preliminary training.

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NEW UTILITY FOR RANDOLPH WEATHER OFFICE

The Weather Office at Randolph Field, Texas, hereby claims to have the best looking and most practical weather sequence rack and display board in the Air Corps. A brain child of Lieut. Moorman, the "rack," or "counter," as the Air Corps Supply designates it, conceived last winter, has recently been delivered.

It is an enormous affair, with spaces, crooks and crannies for everything, including a teletype machine. The plans were prepared by Private 1st Class Spikes, who measured and paced off dimensions so accurately that there was only a sixteenth of an inch to spare when the "counter" came through the door of the office.

The "counter" is built in the shape of a right angle. It is finished in dark green, trimmed with metal, and has a green linoleum top.

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LANGLEY PRIVATE OWNS RARE COLLECTION

By Norman E. Noll

The persistent pursuit of some kind of hobby of collecting manuscripts, ornaments, odd coins, books and all that like, has often been termed by many as the average American citizen's favorite and pleasurable pastime.

This unexaggerated amusement of great eagerness and gratifying delight bars no particular period of time, character of individual or any formula of faith, since all love to gather and accumulate articles for exhibition purposes.

It is true that museums country wide are filled to capacity with an endless number of prized collections, and so with due respect to all, your correspondent contacted Private Jerrie Scott McMullan, of the Base personnel staff at Langley Field, Va., who possesses an interesting collection of literary compositions and rare publications.

McMullan's collection of antique publications includes a 1629 edition of the history of Queen Elizabeth, a 1767 publication of the "Twelfth Day Gift," the initial works of Robert Burns, and a book on Arctic Explorations of 1853, 54 and 55.

loaded with equipment. Department heads checked all property in their departments and memorandum receipts started flying fast and furious.

Later in the day half of all equipment, property and personnel departed from our doors, never again to be part of the thirteenth squadron. Heading south along the hangar line, the caravan stopped at hangar six, recently occupied by the old seventy seventh Pursuit Squadron, unloaded their equipment and set up the nucleus of the new Sixteenth Squadron, under the command of Major B.S. Thompson, who recently commanded the Thirteenth Squadron.

The entire officer personnel of the Sixteenth is made up of old officers of the Thirteenth, and the following officers and noncommissioned officers form a greater part of the new Sixteenth Squadron: Major B.S. Thompson, Commanding; Lieut. S.R. Vosper, Operations Officer; Lt. Y.S. Tarrant, Gas and Armament Officer; Lt. C. Harper, Communications Officer; Lt. B.K. Vorhees, Engineering Officer; Lt. R.C. Calloway, Supply Officer; Lt. L.C. Adams, Squadron Adjutant; Master Sgt. Rufus Clinton, Hangar Chief; Tech. Sgt. J.W. Watson, Chief Armorer; Sgt. R.L. Waldroup, Communications; Sgt. C.A. Reese, Chief Clerk and Engineering Clerk; First Sgt. H.E. McKelvy, "Top Kick"; Sgt. J.C. Marshall, Supply Sergeant, and Sergeant Coleman Hood, Mess Sergeant.

Setting up a new squadron is a difficult task under normal conditions, but setting up a new squadron with a shortage of personnel and equipment makes the task twice as difficult. However, with the zest and initiative that all of these men have taken up their new jobs, I am positive that they will have the Sixteenth functioning as a normal squadron.

The Thirteenth Squadron, under the circumstances, considers itself more fortunate than the Sixteenth. We are also hindered by a lack of personnel and equipment, but by keeping our departments intact and key men in responsible positions we are able to operate as before."

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GRADUATION OF AIRPLANE MECHANICS

The first class of Airplane Mechanics from the Civilian Mechanics' School was graduated from the Aeronautical University, Inc., 1338 South Michigan Avenue, Chicago, Illinois, on January 31, 1940, with appropriate ceremony. Captain J.O. Ryan, Supervisor, presented Mr. L.M. Churbuck, president of the University, who, after a short address, in turn presented Mr. K.L. Burroughs, senior instructor, to award the diplomas

and appropriate souvenirs of the School. Lieut. Jack W. Hickman, Assistant Supervisor, and instructors of the Institution, also sat on the speakers' platform.

"Such graduation should prove of particular interest to the Air Corps at large," declares the News Letter Correspondent, "since this marks the launching of the first maintenance crews wholly civilian trained. The work of the graduates, particularly the first classes, of these civilian mechanics' schools will, and should, be carefully watched throughout the Air Corps, and the efficacy of this training program will be judged by the success and progress of these men."

The first class at the Aeronautical University consisted of 24 men from Selfridge Field, Mich., and upon graduation were assigned as follows:

To Selfridge Field: Privates 1st Cl. Addison A. Evans, John E. Rush, Pvts. Eugene E. Clemons, Edward J. Czyz, Otto W. Daube, Carl E. Ferris, Gilbert E. Green, Emmery W. Jones, Robert L. Jubel Jubell, Henry L. Naessens, Robert M. Oestreich, Glenn D. Phillips, Harry A. Rattner, Peter G. Russell, Warren A. Sharp, John B. Spach, Walter M. Taczylowski and Lyle L. Youells.

To Patterson Field: Pvt. 1st Cl. Robert A. Blalock, Jr., Pvts. Bernard V. Casper, Richard B. Cheever, Robert J. Garrett and George D. Rehklau.

To Wright Field: Private Allyn E. Higgins.

The second class, consisting of 14 men from Selfridge Field and 10 from Lowry Field, Denver, Colo., graduated on February 14, 1940, and were assigned to the stations indicated:

To Selfridge Field: Staff Sgt. Walter Shultz, Corporals Robert E. Dorn and Wilson B. Double, Privates Sam O. Bell, Cecil F. Lulow, Harold A. West, Merton E. Everson, Stephen J. Lewis, Joseph Szalai and Irwin L. Jennings.

To Lowry Field: Privates 1st Cl. Boyd L. Dout, Morris T. Brown, Ralph F. Marotte, Joseph E. McGlasson, Martin A. Schmuck, Robert G. Schneider, Andrew K. Stephenson, Pvt. Robert J. Frankovich, A.M. 2nd Class, Pvts. Charles R. Darnold and Robert E. Holaday.

To Patterson Field: Sgt. George Anderson, Privates 1st Cl. Albert L. Catallo, Thomas Chrones and Harry R. McNeal.

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In a paper, "Counter-Rotating Propellers," presented by Lieut. H.M. McCoy, of Wright Field, O., on January 26th before the Institute of Aeronautical Sciences, New York City, he cited the case of oppositely rotating propellers as a step in obtaining peak propeller efficiency for high speed aircraft.

V-8363, A.C.

AIR BASES IN ALASKA

The Hon. Harry H. Woodring, Secretary of War, announced under date of February 12, 1940, plans for the location of two new Army Air Corps stations in the Territory of Alaska; one to be located at Fairbanks and the other at Anchorage, provided funds are appropriated for this purpose. The Fairbanks site, for which approximately \$4,000,000.00 was appropriated in the Fiscal Year 1940, will be located just north of the City of Fairbanks, and construction will commence within the next few months.

It is contemplated that the Fairbanks station will be used primarily for experimental operations in cold weather. All types of planes will be employed. The construction will include a hangar, shops, paved runways, night landing equipment, quarters for 30 officers and 26 noncommissioned officers, barracks for 300 men, a hospital, a central heating and electric light plant, and warehouses.

The Air Base, comprising 1,000 acres, at Fairbanks, Alaska, has been named Ladd Field, in honor of Captain Arthur K. Ladd, who was killed in an airplane accident at Dale, S.C., December 13, 1935.

Captain Ladd was born in Texas, November 1, 1890, and appointed to the Army from Texas. He was a graduate of the Command and General Staff School, 1932; Air Service Pilots' School, 1921; Air Service Pursuit School, 1921; Air Corps Tactical School, 1930, and had the rating of Airplane Pilot and Airplane Observer. He served as a 2nd Lieutenant, Infantry Section, Officers' Reserve Corps, on active duty from November 27, 1917, to September 9, 1919. He was commissioned a second lieutenant in the Air Service, Regular Army, July 1, 1920; promoted to 1st Lieutenant on the same date and to Captain on April 23, 1929.

The station at Anchorage, which will ultimately include both ground and air units, and which will be located just south of that city, will comprise 1,400 acres, is not yet in process of construction. Funds have been requested in the 1941 budget estimates, amounting to \$12,734,060.00 for the necessary construction of buildings and quarters.

The field will be named in honor of Captain Hugh M. Elmendorf, Air Corps, who was killed in an airplane accident at Wright Field, Ohio, January 13, 1933.

He was born at Ithaca, New York, on January 3, 1895, and graduated from Cornell University in that city. During the World War he was commissioned a second lieutenant in the Infantry Reserve Corps, August 15, 1917; promoted Provisional 1st Lieut. of Infantry on February 9, 1918, and Provisional Cap-

tain of Infantry, October 28, 1918. He served at Camp Greene, N.C., until April, 1918, when he was transferred to the Infantry School at Camp Benning, Ga., as an instructor. On March 10, 1921, he was transferred to the Air Service and, after completing primary flying training at Carlstrom Field, Arcadia, Fla., and advanced training at Ellington Field, Houston, Texas, he was, on December 7, 1921, rated a Pursuit Pilot. He served with the 1st Pursuit Group at Ellington Field and then at Selfridge Field, Mich. After a 3-year tour of duty in the Hawaiian Department, he returned to Selfridge Field and assumed command of the 94th Pursuit Squadron. Later he was assigned to command the 95th Pursuit Squadron and, during the course of his service with this unit, he developed Pursuit tactics at extremely high altitudes, leading his entire squadron in maneuvers at an altitude of 28,500 feet over Mather Field, Sacramento, Calif. In September, 1930, he was transferred to duty in the Office of the Chief of the Air Corps. His death occurred while testing near Patterson Field, Ohio, a new type of two-seater Pursuit airplane.

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IMPROVED MAINTENANCE STAND DEVELOPED AT WRIGHT FIELD.

In service test quantity, a new type of crew chief's maintenance stand is being procured to replace the old type wood stands in use since 1928.

Developed at Wright Field, Dayton, Ohio, the new stand is all-metal and mounted on wheels with rubber tires. It has about the same dimensions as the old type, but is much stronger and less cumbersome. Drawers and containers are eliminated, as all standardized tools required can be carried in the Kenner tool kits now in use. Steps mount to an adjustable platform which is raised to the desired level.

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A new type of wheel chock which fold and can be adjusted to accommodate different sizes of wheels of all Bombardment and Cargo airplanes has been developed at Wright Field, Ohio.

Of tubular construction and employing duraluminum, the folding chocks are much lighter and more compact than wood chocks. They are converted from the flat portable shape to a sturdy triangular chock by locking one of the tubes into place with a heavy lock pin attached to a chain.

The purpose is to supply light chocks which can be taken in an airplane on cross-country flights.

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ISSUED BY THE OFFICE OF THE CHIEF OF THE AIR CORPS, WASHINGTON, D. C.

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The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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WRIGHT FIELD'S FLUTTER CLINIC By the Materiel Division Correspondent

Not as much is known about flutter as has been written about it (a bibliography of flutter studies and articles compiled in 1937 filled 337 pages), but one maxim is that flutter of any kind at high speed is dynamite. It is also generally true that the higher the performance and the larger the airplane the more complicated is the work of preventing or eliminating flutter. Consequently, the application of approved remedies for flutter, and sustained flutter research, will become increasingly important as the speed of airplanes draws closer to the speed of sound.

New problems arise as rapidly as new designs are built. Aeronautical engineers in the Materiel Division have in recent years discovered actual and potential flutter conditions in several new airplanes. Thanks to the rigid testing procedure at Wright Field, proper corrections have been made in each instance, and the final acceptance tests proved that the flutter had been eliminated.

Flutter has been defined as oscillation of rather definite period which may be set up in any part of an airplane in flight and be maintained by the aerodynamic, elastic, and inertia characteristics of the structure itself.

The initial exciting factor may be a bump, violent maneuver, or the vibration of some element such as the engine or propeller - or it may even be due to looseness or slack in controls or movable elements of the airplane. With any variation in the load a structure must deflect in order to develop sufficient resistance to carry the load.

In the case of an airplane wing loaded to design load conditions, the tip deflection will be from approximately 12 inches for small, rigid Pursuit airplanes to as much as 30 to 40 inches for large-span Bombers and Cargo airplanes. Since this deflection must necessarily take place, the designer's problem is to design the airplane structural components to be as rigid as possible, in order to provide a prevention

for twisting or change in attitude which might supply the necessary force to carry the deflections beyond those necessary simply to support the load imposed.

For instance, if the front spar of an airplane wing were much more flexible than the rear spar, an upward deflection of the wing would produce an increase in angle of attack, thus supplying additional lift forces which increase the deflections still further until they reach a point where the elastic characteristics of the wing cause it to return toward its equilibrium position. Upon return a similar change in angle of attack occurs, thus permitting the wing to deflect past the equilibrium position. This corresponding deflection in the other direction would bring about similar aerodynamic twisting, supplying a force which would increase the amplitude of the vibration.

In addition to this type of flutter, movable surfaces supported on hinges are subject to rotation about the hinge line, due to mass inertia on the surfaces themselves when the hinge line vibrates about some other axis in the airplane. It is obviously desirable that such movable surfaces be completely mass-balanced in order that no rotation of the surface will take place due to motion of its hinge line.

Trim tabs which have considerable play may also cause definite flutter of the control surfaces to which they are attached, and correspondingly control surfaces which are not properly balanced may cause flutter of the main surface to which they are attached, due to the motion of the adjacent structure about some axis other than the hinge line of the movable surface itself. Dynamic balance was found to counteract this condition but not to the extent of providing complete static balancing of the surface about its own hinge line. This presupposes the knowledge of the location of the axis about which the adjacent structure is going to move.

The potential flutter factors in the larger, high performance airplanes are

many. The exterior bracing of the earlier biplanes is eliminated in the clean design of the monoplane with cantilever wings with a longer span. The number of cut-outs (for windows, turrets, landing gear retraction, doors, etc.) in the wing or fuselage has increased. While all of these developments were accompanied by reinforcement, the desire to save weight occasionally results in an airplane without enough structural stiffness for absolute safety.

With the older wire-braced airplanes, flutter was less dangerous due to the rigidity of the structure and the relatively slow speeds at which the airplanes were flown. At higher speeds, the results of flutter are more apt to be disastrous because the aerodynamic forces are greatly increased. Consequently, any deflection depending upon such aerodynamic force will be greater and the build-up in flutter amplitude may occur in such a short time that the results are more apt to be critical than at a slow speed in which the elastic characteristics of the structure might completely balance the aerodynamic forces so that a sustained but not necessarily destructive flutter could be withstood. Sufficient time might be available to change the conditions of flight prior to actual structural failure.

The Air Corps has not favored artificially excited flutter tests of full-scale airplanes in flight. It believes that such incidents as the crash of the Junkers Ju-90 during a flutter test and the loss of several engineers justify this policy. The exhaustive tests at Wright Field prior to acceptance of a new type, and the test equipment in itself, are safeguards which are serving well, not only the Air Corps but also the Navy, the Civil Aeronautics Authority, and the manufacturers of both military and nonmilitary airplanes.

Much of the equipment used in acceptance tests was developed at Wright Field and is described in detail in the Handbook of Instructions for Airplane Designers. An eccentric vibrator is used to determine the natural frequencies of the following structural components: rudder, fuselage, fin, stabilizer, elevators, wings, ailerons, tabs, engines, and mounts.

The static and dynamic balance of all control surfaces are investigated and corrected if necessary. It is required that dynamic balance be obtained as far as is practicable by the inherent shape of the surface and favorable disposition of structural material. Ballast is added only for the final adjustment. All ballast is securely attached to an ade-

quate structure and not merely to metal covering or flimsy cover support.

Generally, the prescribed remedies for correcting flutter are the achievement of mass balance of all control surfaces and attainment of a high degree of rigidity of the structural components. In extreme cases, the weight of the corrective ballast approaches that of the structure; in one known case of a rudder, the ballast exceeded that of the structure. Obviously, the better the design the less amount of corrective ballast necessary. Ballast is usually added near the leading edge in the form of melted lead poured into a tube, or in sheet form properly located within the structure.

The second phase of Wright Field's flutter clinic is the flutter model used in the wind tunnel. Application of model data for estimating the critical flutter speeds of full-scale airplanes was revealed to have substantial accuracy. These data are shortly to be published in Air Corps Information Circular No. 714. More recently, a study of flutter resulting from sideways bending of the fuselage, interacting with oscillations of the rudder and tabs, was completed.

The model can be rigged to simulate all types of airplanes from pursuits to transports and bombers. This versatility is secured by virtue of a design which permits changes in the mass balance of the rudder, the rigidity of rudder controls and fuselage. A new method of spring suspension is employed which expedites experiments by inciting flutter with a controlled force simulating air bumps. The model has two vibration pickups. One follows the motions of the fuselage, the other the motions of the rudder. The amount of the vibration, together with the frequency, amplitude, and phase relationship, is recorded on film with an oscillograph.

The flutter model will be used next in a study of the possibilities of artificial oil dampers in eliminating flutter. Tentatively scheduled is a test in which the model will be set up for investigation of the danger limits of testing for flutter full-scale airplanes in flight by artificially excited flutter. In the meantime, some consideration is being given to a requirement that manufacturers of unconventional or high speed types submit a flutter test model just as they now submit a spin test model and a regular performance model. If flutter is encountered in level flight, it is advisable to decelerate immediately by closing the throttle. The second action is to make some change in the conditions of flight, but pulling up abruptly should

(Continued on Page 4)

THE AIR SHOW AT BOLLING FIELD

By the News Letter Correspondent

The Air Show, held at Bolling Field, D.C., during the period January 19 to 24, 1940, was a tremendous success and well attended, regardless of the fact that the nation's Capital was in the grip of a record cold wave.

President Roosevelt, accompanied by the Secretary of War, the Assistant Secretary of War, and Brigadier General George H. Brett, Air Corps, Chief of the Materiel Division, visited the show on the afternoon of January 20th. A twenty-one gun salute was fired when the President arrived and departed the station. The show so impressed Mr. Roosevelt that he recommended it remain open to the public until Wednesday, January 24th, instead of closing as originally planned on January 21st. Brigadier General Barton K. LeYount, Air Corps, Assistant to the Chief of the Air Corps, later issued orders extending the period of the Air Show as recommended by the President.

Among other distinguished guests were the Hon. Henry Morgenthau, Secretary of the Treasury; Hon. Andrew J. May, Chairman of the House Military Affairs Committee; Mr. Glenn L. Martin, famous builder of airplanes, and a large number of other members of Congress and government officials.

The enthusiasm of the show visitors was most gratifying to the officers and enlisted personnel who had spent long hours on the planning and work connected with its production. Those who were responsible for the Air Show are to be congratulated on the appearance of the hangars and displays.

The new hangars at Bolling Field were turned over to the Show. Hangar No. 1 housed the display of the newly developed airplanes and the Ordnance Exhibit, which included bombs and guns now in use in the Army Air Corps. Hangar No. 2 housed the displays of aircraft engines, tires, radios and every other imaginable accessory. This display also included a portable photographic laboratory, a large auto trailer for field use. A canopy was erected connecting the two hangars in order to protect visitors from the unusually cold weather experienced during the period of the show.

In addition to the indoor exhibits, there was also an outdoor display of Army aircraft, including one or more of practically every type of airplane now in use. Most of the airplanes on exhibit were camouflaged as they would be in time of war.

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THE NEW RYAN PT-20 PRIMARY TRAINER

Cadets of the Army Air Corps Training Detachment at the Ryan School of Aeronautics, San Diego, Calif., were the first Army personnel to become acquainted with the latest Primary Trainer, the Ryan PT-20's, which are just off the Ryan Aeronautical Co. production line at its new factory across Lindbergh Field from detachment headquarters.

A group of the Ryan trainers, designated YPT-16, are already in use at the training detachment at San Diego. The latest planes off the line show many improvements in design and construction, all of which have been made to provide greater comfort for the pilot, to increase efficiency in giving flight instruction and to simplify and facilitate maintenance.

The Ryan PT-20 Trainers for Air Corps service are low-wing, metal-fuselaged, open cockpit monoplanes, seating pilot and instructor in tandem. Power is provided by a 125 h.p. Menasco C-4 inverted in-line, air-cooled engine.

The first of the PT-20's to be completed was recently ferried to Bolling Field by Lieut. E.H. Hawes, of Randolph Field, for exhibition at the Congressional display.

As compared with the YPT-16's, the principal difference in external appearance of the PT-20's is the placing of the upper longerons around the cockpits on the outer side of the fuselage skin instead of internally, as was the previous practice.

By making this change in longeron location and by increasing the size of the cut-outs, cockpits in the new PT-20's have been made considerably larger providing much easier entrance and exit for both student and instructor. Length inside the cockpits has also been increased and instrument panels have been set further forward.

Efficiency of the airplane for training purposes has been improved by making the parachute-type seats adjustable to accommodate different pilot personnel, and by providing toe-operated brakes in both cockpits, as is the general practice in military aircraft.

Front and rear seats have been made adjustable both as to length and height. A parking brake, operated from the rear cockpit, is another added feature of the new models.

Wing walks are now installed on both wing roots, instead of only on the left side. For operation of the elevator tabs, crank-type controls with indicator are installed in both cockpits, replacing the draw wire previously used. This makes for easier and more sensitive

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V-8355, A.C.

NEW JERSEY NATIONAL GUARD AVIATION CELEBRATES TENTH BIRTHDAY.

The 44th Division, consisting of the 119th Observation Squadron, the 119th Photo Section, and the Medical Department Detachment, based at Newark Airport, celebrated its tenth anniversary of Federal recognition on January 30, 1940. Organized by Major Kellogg Sloan and Sergeant Robert E. Maloney, Air Corps, DEML, the organization is now headed by Major Chester A. Charles, with Captain Clinton "Skippy" Davies assigned as the Regular Army Instructor. Lieut. Colonel Robert L. Copsey relinquished command last summer to accept appointment as Air Officer of the 44th Division.

An Organization Ball is being planned for the officers, enlisted men and their guests, to be held February 10th in Newark. The original members of the Squadron still in service with the unit will be feted, with twelve 10-year medals and various other awards.

The unit recently returned from a 7-day period of additional field training at Cape May Naval Air Station, where uninterrupted operations were conducted for the full seven-day period, all flying personnel participating in a well-rounded program of gunnery, photography, radio and cooperative missions with the 157th Field Artillery then carrying out their increased field training at Fort Dix.

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GENERAL LACKLAND DEPARTS FOR NEW STATION

Brigadier General Frank D. Lackland, former Commandant of the Air Corps Advanced Flying School, departed from Kelly Field on January 13th by air for March Field, Calif., where he will soon take command of the First Wing, GHQ Air Force.

On January 11th, the officers of the Post honored General Lackland and Mrs. Lackland with a formal dance, at which everyone had an opportunity personally to wish the General and his mother a pleasant trip and tour of duty at March Field.

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FIFTH SECTION ORGANIZED AT BROOKS FIELD

On February 1st, the Fifth Section of the Air Corps Advanced Flying School was formed at Brooks Field, Texas. This Section will supplement the four original sections now at Kelly Field. On February 17th, Captain E.H. Underhill, Chief of Section, will put 90 students into the air. These men will be the first students who will have flown from Brooks Field since October, 1931.

Twenty-four former Kelly Field officers now compose the instructors of Section 5,

viz: Captain E.H. Underhill, 1st Lts. J.E. Timberlake, Jr., D.S. Campbell, C.H. Pottenger, Thomas Wildes, 2nd Lts. R.W. Osborn, C.L. Sluder, G. Hoisington, Jr., W.P. Brett, H.W. Frederick, Jr., M.E. Lipps, J.C. Reddock, Jr., and B.M. Tarver, Jr., all Air Corps officers; 1st and 1st Lieut. W.L. Fernald, 2nd Lieuts. W.H. Turner, G.F. Anderson, R. Neal, J.H. Stenglein, E. Herbes, J.H. Ruggles, P.H. Fackler, J.M. Johnson, C.O. Peterson and J. DuB. Yow, Jr., all Air Corps Reserve officers.

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KELLY FIELD EULOGIZED IN POEM

Private G.F. Hinton, of the 12th Air Base, Kelly Field, Texas, submitted a poem about Kelly Field. His home is in Bartlesville, Okla., and he enlisted recently at Oklahoma City. Private Hinton's thoughts in his poem indicate the high morale of soldiers and recruits of Kelly Field. His poem reads as follows:

"KELLY FIELD.

When the last long hop is over,
And the sun is low in the west,
I'll head for that field of clover
Where my buddies have gone to rest.
But before I leave this old world,
I'll fly to the heavens above,
To salute the flag that's unfurled
O'er the field that I've grown to love.

With a blast from my diving ship,
I'll voice a lasting prayer,
While I breathe with a trembling lip,
All my thanks to have soldiered there.

And before I fly through the clouds
That is dim on the far sky line,
I want you to know that I'm proud
Of the Army life that's been mine.

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The New Ryan PT-20 Primary Trainer

(Continued from Page 3)

adjustment.

Other important changes include new type throttle controls, combining the spark and mixture controls which were previously on the instrument board; hand-holds on wing tips to facilitate handling of the airplane on the ground; longer, military-type sticks; reinforced nose cowl; the installation of Dzus fasteners for the removal of the inspection sections of the engine cowl; and an improved-type front cockpit flap control.

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Wright Field's Flutter Clinic (From P.2)

be avoided, as a sudden increase in the angle of attack may impose a load sufficient to cause a failure.

FLYING TRAINING AT SPARTAN SCHOOL OF AERONAUTICS

By Flying Cadet S.W. Bishop

A driving snow recently blanketed the vicinity of the Spartan Air Corps Training Detachment at Tulsa, Okla., and forced a drag upon the hitherto steady progress of the classes now in training at this station. Continued snow, low visibility and low temperature have taken their toll of precious flying time, leaving a certain amount of leisure time upon the hands of some 160 eager Cadets.

This state of inertia has been remedied by a series of events, foremost among which has been the inspiration instilled in all students at this base by a boost in ground school standards. The climax to the inspiration took form in the confinement of 36 Cadets to the Post during a week-end for scholastic delinquency. Ironically enough, the course of ground instruction responsible for this confinement happened to be Meteorology - the study of the weather - already a delicate subject to all. Apparently there are compensations, however, for the study rooms are now well filled at night, and weather is being discussed technically and subjectively rather than vehemently and objectively.

During the aforementioned lull in activity here, some of the more playful of the Cadets clipped another's head. The experiment proved both entertaining and practical, so the movement spread until it seemed that short-cropped craniums would characterize the next class arriving at Randolph Field from Spartan. In order to keep the records complete, it should be mentioned in passing that immediately following this movement the popularity of the Cadets among the local belles hit an all-time low, causing consternation among the less enthusiastic adherents of the plan - hence the fad is dying out.

The size of the classes at Spartan has made it necessary to establish a system of semi-self-discipline for the Cadets, which is based principally upon customs similar to those prevailing at Randolph Field. There is a modified two-class system, viz: Upper and Lower, the Upperclassmen being those who began training six weeks ahead of the "Dodos." Both classes constitute a Company, which is divided into three platoons, which in turn are composed of squads.

The ranks of Cadet Captain, Lieutenants, Sergeants, Corporals and other officers are filled by Upperclassmen who have had previous military experience. Formations are held for all mess calls, classes and flying duty. The system has proven itself effective and successful in its objective - that of helping to con-

vert men fresh from college, who are long on individuality and short on discipline, into military pilots without hazing. The transformation of each incoming group of debonair, if not cocky "Joe Colleges" into eager, militant Fledglings in the short space of six weeks' exposure to the disciplinary measures of the acting officers and noncommissioned cadet officers of an upper class is little short of amazing, even breathtaking - observe some of the newcomers. It should be noted, however, that the smooth functioning of this system is due largely to the fine character of the young men who are proud to be given the opportunity of flying for the United States Army Air Corps, and to the splendid guidance of the capable officers in command of the Post, who are held in high esteem by all whose pleasure it is to serve under them.

Football and baseball provide some recreation for the Cadets, and the week end trips into the city of Tulsa afford ample relaxation from a week of flying and ground school. The citizens of Tulsa have warmly accepted the classes of men as temporary citizens, and desirable acquaintances have been quickly made by those who enjoy social diversion. Dances for the Cadet Corps are given periodically by local sponsors, while the spirit of the men toward this genuine interest shown in them is one of sincere appreciation. Doubtlessly, there will be many friendships formed by each man who completes his three months' assignment to this detachment which will be perpetuated long after he is on tour in the service of the Air Corps.

Of the first three classes at this School, 255 entered and 163 went to Randolph, a percentage of 64. Of the two classes here now, 120 entered and 156 remain. In the Mechanics Ground School Course, 80 enlisted men entered and 74 remain. The first mechanics class will complete its six months' course on January 31st, and a class will graduate each month thereafter, since they entered in groups of 20 monthly for four months.

The most recent weather reports indicate that there will be suitable flying weather again soon, so it appears that progress will be resumed with a minimum of delay. This news has generated fresh enthusiasm among the entire company of Cadets, who are complacently eager to climb again into the cockpit for a frolicsome, yet earnestly studious.

(Continued on Page 6)

Student navigators in the Navigation School now being conducted by the 5th Bombardment Group, Hickam Field, T.H., proved their mettle in an advanced dead reckoning navigation problem recently, this consisting of the interception of the Honolulu-bound U.S. Army Transport REPUBLIC 280 miles at sea.

At 8:00 o'clock on the morning of the flight, the Group Commander, Lieut. Col. Walter F. Kraus, decided to make the interception, the Transport having been reported within the "safety" limit of 300 miles. Two hours later, six B-18 airplanes, manned by the student navigators and by pilots hastily recruited for the "surprise" interception, led by the Group Commander, took off from Hickam Field. Each crew was fully prepared and equipped to make the interception independently, if necessary. For safety reasons, however, the aircraft proceeded to the interception in two plane flights. Individual navigation was performed by each crew, the lead positions changing for the return home.

The interception was made at 11:49 a.m., at which time the Group assembled, passed by the Transport REPUBLIC in an Aloha Review (which was acknowledged by a blast from the Transport's whistle) and broke up into flights for the return home, landing at Hickam Field at 1:35 p.m.

The 280 statute miles to the vessel were covered at a speed of 182 miles per hour out and back, there being practically no wind. Broken cloud banks below the flight level added to the difficulty of obtaining double drifts.

Radio navigation was used as a check on the dead-reckoning navigation, by taking radio compass bearings on MO's courteously sent at intervals by the Transport REPUBLIC. Except as a safety precaution, the radio signals proved to be unnecessary, since the largest error reported was five miles off course and two minutes difference between "ETA" and "ATA."

The following-named second lieutenants of the Air Corps performed the duties of navigator on the flight:

William J. Cain, Jr. and Paul S. Enrick, of the 31st Bombardment Squadron;

Nils O. Ohman and Harry E. Hammond of the 50th Reconnaissance Squadron;

James T. Posey, of the 23rd Bombardment Squadron;

Robert S. Quinn and Weldon H. Smith of the 72nd Bombardment Squadron;

Render D. Denson and Raymond P. Salzarulo, of the 4th Reconnaissance

Squadron.

ARMY PILOTS LOCATE LOST SAMPAN

Many times in the history of aviation have flyers been rescued from the briny deep by surface vessels, but it is not often that the reverse is true. The unusual happened, however, off the coast of the "Big Island" of Hawaii recently, when Staff Sergeant Charles G. Cunningham, 17th Air Base Squadron, and 2nd Lieut. Raymond P. Salzarulo, Air Corps, 4th Reconnaissance Squadron, were flying the C-33 Transport airplane from Morse Field, Hawaii, T.H., to Hickam Field, a distance airline (and over water) of 230 miles, and were over the island of Kahoolawe when they received a radio message from the 5th Bombardment Group Radio Station to search the area off the west coast of Hawaii for a sampan, missing since the afternoon of the previous day.

At 2:10 p.m., the C-33 had located the 27-foot craft about 20 miles northwest of Keahole Point, and by flying low over the boat ascertained that the crew, consisting of Mr. Elmer C. Smith, his son, aged 2, and his nephew, aged 7, all of Hilo, Hawaii, were aboard.

Guard was maintained until a Coast Guard plane, piloted by Lieut. F.A. Erichson, arrived at 4:12 p.m., and took over the responsibility of guiding surface craft to the rescue. "We are happy to report," says the News Letter Correspondent, "that the craft was towed to safety before dark, and that the Captain and his juvenile crew suffered little from their 26 hours adrift at sea."

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Flying Training at Spartan School (Continued from Page 5)

ous flight into the Heavens, bent on dusting the cobwebs from Lazy Eights or ironing out the kinks in Chandelles, preparatory to that coveted day when all will be transferred to Randolph Field for Basic training, another milestone on the road to becoming one of Uncle Sam's Flying Defenders.

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Major General Henry H. Arnold, Chief of the Air Corps, arrived at the Grand Central Air Terminal, site of one of the Flying Cadet training detachments, on January 17th to spend three days in the Los Angeles area inspecting aircraft factories constructing Army planes.

V-8355, A.C.B.A.

ORGANIZATION OF 31ST PURSUIT GROUP By the Selfridge Field Correspondent

Uncle Sam is spreading his wings, and from the rain-soaked tropics of Panama to the snow-capped peaks of Alaska their shadow is looming larger and more pronounced. New aerial units are being activated for Puerto Rico, Hawaii, Alaska, Panama Canal Zone, and various posts throughout the continental limits of the United States. Personnel acquired as a part of the expansion program are being rapidly trained for positions in the new units, and production on the latest in new equipment is now under way. The Southeast Air Base at MacDill Field, Tampa, Fla., and the Northeast Air Base at Chicopee, Mass., are being built. At every point where a new unit is to be sent, personnel are hard at work preparing to take care of them.

But there is another phase to this work, and that is the organization and training of these new units. It is not something which can be done overnight by placing orders to that effect on a sheet of paper. It takes study, planning, numerous revisions of plans, choosing of personnel, requisition and securing of equipment and, finally, the actual formation. At first there is only the filling of key positions to form a skeletonized unit, then the gradual building around it.

Up in the northern part of the nation on the western shores of Lake St. Clair, at Selfridge Field, Mich., such a unit is being formed. It will be known as the 31st Pursuit Group (Interceptor). When the Hon. Harry H. Woodring, Secretary of War, announced under date of December 28, 1939, the constitution of several new Air Corps units, work was immediately started on the 31st Pursuit Group. For a time, Selfridge Field, the home of the First Pursuit Group, will be forced to "double up" and make room for the development of its "foster child."

The Headquarters Squadron and the 39th and 40th Squadrons of this Group will be formed at Selfridge Field, while the 41st Squadron will be formed at Bolling Field, D.C. The units will not be merged until they are transferred to their new home at Mitchel Field, N.Y. Major Harold H. George will be at the helm, and the 31st will begin to take form, with plans for the future being made. Captain John R. Hawkins, veteran Operations Officer of the First Pursuit Group, has been transferred and has assumed the same duties in the new unit. The same has been done by Captain John N. Jones in the personnel department. Captain Paul B. Wurtsmith, recently with the 17th Pursuit Squadron, has been made the 31st Group Adjutant and Commanding Officer of the Headquarters Squadron. Lieut. Charles W.

Stark was appointed to serve as Group S-1, S-2 and Public Relations Officer. Captains John F. Eagan and Allen R. Springer, both veterans in this line of work, are to command the 40th and 39th Squadrons, respectively. The key positions of the Squadron and the jobs as flight commanders have been allotted to younger officers of the different Squadrons who have proven by past work that they will be more than capable in handling them.

Present plans call for the remaining officer vacancies to be filled by new men reporting from the flying school.

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LUKE TROPHY GOES TO 94TH PURSUIT SQDN.

Brigadier General Arnold N. Krogstad, Commanding General of the 2nd Wing, GHQ Air Force, visited Selfridge Field, Mich., on January 15th, for the purpose of presenting the Frank Luke Trophy to the 94th Pursuit Squadron for attaining the highest gunnery average of the year in the GHQ Air Force. The Trophy, which had been shipped from Moffett Field, Calif., on January 11th by Transport, had not arrived, and the General lengthened his stay until the 17th, at which time he departed for Langley Field, Va. The Trophy arrived the following day, and it is to be presented to the 94th by Colonel Henry B. Clagett, Commanding Officer of the Third Air Base.

The Frank Luke Memorial Trophy was endowed by the American Legion of the State of Arizona in honor of Frank Luke who, by virtue of his deeds during the World War, won the title of the "Arizona Balloon Buster." The late Lieut. Luke was credited with 18 victories in 17 days. On one occasion, within the space of ten minutes, he disposed of three enemy balloons and two enemy airplanes. In doing so he was subjected to heavy anti-aircraft shelling, and when he turned with the purpose in view of strafing ground troops he was brought down. Although severely wounded, when called upon to surrender he refused to do so and he fired his pistol until he was shot and killed.

The Trophy was originally endowed to the West Coast Pursuit pilot who made the highest gunnery average each year, but this condition of award was changed and now it is awarded to the Pursuit Squadron maintaining the highest gunnery average during the fiscal year.

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During December, the Engineering Department of the San Antonio Air Depot, Duncan Field, Texas, overhauled 8 airplanes and 85 engines and repaired 26 planes and 11 engines.

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FAREWELL TO THE 26TH ATTACK SQUADRON

December 8, 1939, marked the retirement of the 26th Attack Squadron. As they took off from Bellows Field, where they had been attending gunnery camp, the pilots could not help thinking that this was the last flight they and their airplanes would take together, as the ships were to be retired from service as well as the Squadron. Perhaps one boy in particular had that feeling, as in the year 1931 two other pilots of the 26th may have had when they took off in their planes and had to land in their parachutes. But we are ahead of our story.

After the Sarajevo incident put Europe into a turmoil in 1914, a man named Raynol C. Bolling conceived the idea of forming the 1st Aero Squadron of the New York National Guard. Bolling was counsel for the United States Steel Co., a flying fan, and later a Lieut. Colonel, in whose memory Bolling Field, D.C., was named.

Soon after the United States entered the War, this unit was federalized, named the First Reserve Aero Squadron, and sent to Mineola, L.I., New York, for training. From September 17, 1917, to the Armistice, the outfit is credited with seeing service, even though the closest the war came to it was during a submarine attack the day before arrival in Liverpool. It seems that the outfit was made a School Squadron with the duties of instructing other units and recruits. It was soon after arriving in France that the name of the Squadron was changed to the 26th Aero Squadron.

On June 7, 1919, the Squadron was demobilized at Mitchel Field, but it was organized again at Kelly Field, Texas, two years later as a part of the Third Attack Group. To this Squadron were assigned experimental types of ships. After six years, the Squadron became inactive and finally, in May of 1929, it was relieved from the Third Attack Group and assigned to the 5th Composite Group at Luke Field, Hawaii, becoming active at Schofield Barracks (Wheeler Field) in September as part of the 18th Pursuit Group, its members being taken from the 19th and 6th Pursuit Squadrons and the 75th Service Squadron. The record of the Squadron was an enviable one. While there have been three unavoidable crashes and seven "bail-outs," there has not been a loss of life, and yet no other Squadron has participated in more difficult flying.

In eight years the 26th Squadron has hung up many trophies for outstanding accomplishments.

On the morning of December 8th, the Squadron appeared from Bellows Field at 10:45, with Captain Acheson leading his

boys through their final aerial review. Although it was entirely unofficial, it was nevertheless an impressive sight to all on the ground. We realized the sentiment involved as each one of the pilots flew for the last time in the closest of all friendships - aerial formation. Tomorrow the officers would pack up their flying equipment and head for the 17th Air Base Squadron, the 50th Reconnaissance Squadron, the 23rd Bombardment Squadron, the 19th Pursuit Squadron, etc., but today they were still together and were "shining their rinds" in farewell. Through their repertoire went these "fence jumpers" with the grace and skill that days of "position flying" under Captain Bob's direction had taught them - from the simplest maneuver to the most intricate with never a mistake. Tears were not far from some of the thoughtful eyes on the field as the rumbling ships "buzzed" the field and pulled up to drop M-9 flares in finale. It was just then that the last plane in the Lufbery was seen to catch fire and out of it appeared a speck - the gunner leaping to safety in his parachute. A hush fell on the hangar line - even the motors of the other planes seemed to hesitate as every witness waited for one more speck to appear. Three hours went by in about twelve seconds - the time it takes for a perfectly disciplined pilot to hold his ship steady while his crew bails out and then set the stabilizer and dive out himself. As both parachutes opened, the deserted A-12 gradually lowered its head in pain and sped faster and faster for its final relief - complete destruction on the side of Waikale Gulch. When the fire trucks arrived, an all consuming fire was found, one which left nothing but the gun barrels to salvage "In Memoriam." In the meantime, out of the guava bushes came Lieut. Rolle E. Stone, Air Reserve, and Private Wotonuk, a little shaky but still hale and hearty.

The parachutes of the two jumpers opened at an altitude of approximately 1,000 feet, the men landing in due time about 100 yards south of old Wheeler Field.

Investigation revealed that the accident occurred when the gunner, after loading the flare, grasped the projector in both hands preparatory to firing the flare. The butt of the projector came in contact with the gun cradle, causing the flare to be discharged into the rear fuselage of the ship. Naturally, the fire started immediately.

The 26th Attack Squadron ceased its tactical flying on December 8th, and was assigned the task of conducting the

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FERRYING A "DUCK" TO PANAMA CANAL ZONE

An interesting cross-country flight was concluded at 11:00 p.m. New Year's Eve when 1st Lieut. G.E. Pierce, 2nd Lieut. W.E. Basye, Staff Sgt. Wallace Carter and Private 1st Class S.D. Beaton from March Field arrived in two borrowed A-17A's, after ferrying an OA-8 "Big Duck" airplane to the Panama Canal Department. They took off from Hamilton Field, Calif., December 4th, for Duncan Field, Texas, where they remained until the 19th for an airplane check by the Depot there. Meanwhile, they were joined by a flight of four A-19's (Vultee) from Barksdale Field and a C-39 from March Field. The entire flight journeyed to Panama together, and the personnel were returned via the C-39.

After clearing the Mexican Customs and Immigration, and having the airplanes inspected by a party of Mexican Army officials in Brownsville on the 20th, the flight proceeded to Vera Cruz, Mexico. Each day's "hop" was begun in the morning, with overnight stopovers as previously arranged by the State Department. Guatemala City was reached on the 21st, and San Jose, Costa Rica, on the 22nd. Arriving at France Field, Panama, on the 23rd, the ships were checked in to the Depot there, and the personnel visited at Albrook Field until the 27th, at which time the C-39 proceeded to Barksdale Field.

Overnight stops were made at Managua, Nicaragua, and Guatemala City, Guatemala, on the 27th and 28th, and Barksdale Field was reached on the 29th. The longest flight on any one day during the trip was from Guatemala City over a distance of approximately 1500 miles, with a fueling stop at Vera Cruz and a customs check at Brownsville. Following a night flight, the airmen arrived at March Field at 4:00 a.m. on December 30th. A forced landing of the C-39 marred this day's hop, the first trouble experienced on the whole trip. Bad weather was also experienced, both pilots later in the day being forced to land their A-17A's at Oakland, Hamilton Field being closed in. However, just under the wire, both pilots arrived at home to their families, after an auto trip from Oakland, to celebrate the dawn of the New Year.

Exceptional courtesy and hospitality is reported by the entire flight in the stops in foreign countries and elsewhere from the American Consuls, Legation officials and all concerned. All in all, the trip was entertaining as well as exciting, and much valuable experience was gained.

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HIGH SCHOOL BOY GETS PLACES QUICKLY

The Air Corps Expansion Program opens rather tremendous opportunities for boys recently recruited - high school boys in the Air Corps apparently. "The Hurricane," Utah High School newspaper, recently received at Hamilton Field, carries a story, as follows:

"Last spring H.....I..... was officially released from the bonds of High School duties. It was then that he decided to give way to an urge for flying. During last winter he took a correspondence course which dealt chiefly with mechanical drawing of aircraft. In the early fall he applied for enlistment in the Army Air Corps, passed the examination, and on September 14th became a mechanic in the 5th Air Corps with its base at Hamilton Field, California. On October 23rd he was transferred to the 11th Bombardment Group and promoted to the Engineering Corps. A special plane has been assigned for his activities. Already he has spent several hours flying over the San Francisco World's Fair Grounds. We, the Journalism Staff, wish for H....., our former editor, loads of luck and many happy landings."

Says the News Letter Correspondent: "High ranking Army authorities will be, no doubt, glad to learn of the rapid advance of Hamilton Field youth in the military flying establishment."

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OFFICERS ATTEND AVIATION ORDNANCE SCHOOL.

An officers' class of the Tenth Ordnance Service Company School of Aviation Ordnance was scheduled to start on Monday, January 8th, at Langley Field, Va., with one Captain and ten Lieutenants from the Ordnance School at Aberdeen Proving Ground, Md., listed as students for the course of instruction in operation, equipment and training of Ordnance activities.

Captain Edward P. Mechling, Director of the School, said that the course would include ten different assignments of specialized training for service with General Headquarters Air Force throughout a three-month period. He further added that morning hours would be devoted to an individual project schedule, while during the afternoon officers would be handled as one group for lectures and special demonstrations.

Initial assignment and study will be for three weeks with the Ordnance Section of GHQ Air Force, followed by one week in the Second Wing Ordnance Office and five weeks in various jobs in the First Air Base Ordnance Department.

Listed as assisting Captain Mechling

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in the handling of the School's activities are Major Frank F. Reed, Ordnance Officer of the Second Wing, as instructor in technical development of ordnance and aircraft equipment, and Mr. Thomas Gaines, civilian, as instructor in standard ordnance material.

The officers enrolled are Captain George R. Barnes, 1st Lieuts. G.C. Cowan, Loyd Pepple, Warren N. Wildrick and Robert S. Blodgett, Infantry; 1st Lts. Alden P. Taber, C.A.C.; William R. Huber, John M. Cone and George C. McDowell, Field Artillery; Arthur Cyr and Victor C. Huffsmith, Infantry.

NONCOM. MESS AT MAXWELL FIELD

The latest venture to be established at Maxwell Field, Ala., is a Noncommissioned Officers' Mess, which served its initial breakfast on January 15th. It is being operated as a convenience for the Air Corps Tactical School noncommissioned officers residing on the post and those living temporarily in Montgomery. It is being conducted under the supervision of the Post Mess Officer. The election of a Mess Council of three has been proposed, and the suggestion is to be acted upon in the near future.

Approximately 50 have already joined, and a sharp increase is expected about February 1st, when about 300 soldiers at Maxwell Field are to be promoted to noncommissioned status.

The mess is being conducted on a co-operative basis, with all members defraying their pro rata share of maintenance. It is located in the north wing of the Noncommissioned Officers' Club.

Thanks to Technical Sergeant Claude Langston, President of the Maxwell Field Noncommissioned Officers' Club, the mess didn't get off to an oblique start when its initial breakfast was scheduled to be served. Apparently Sergeant Langston had a hunch, for he was in the dining room bright and early just in case. That his psychic bid was sound is attested to by the fact that the only unusual occurrence incidental to serving of breakfast was that the colored civilian cook who had been hired Saturday did not show up.

An absent without leave "slum burner" was no problem for Sgt. Langston, for he dug down into his bag of tricks and had a pinch hitter home on the range in "short order." The fifty or so who were served all commented on the excellence of the breakfast and the prompt service by the trio of attractively attired green uniformed waitresses. However, little did they know how close they had come to missing their morning's coffee.

NECESSITY MOTHER OF INVENTION

The 6th Pursuit Squadron, Wheeler Field, T.H., is very proud of Sergeant Paul William Stone, and there is every reason for this feeling. Sergeant Stone has not only shown himself to be an excellent crew chief, but an inventor and designer of no mean note as well.

Upon the arrival in the Hawaiian Islands of the P-36A airplanes, it was seen that the ships were not provided with a means for carrying and dropping life rafts, something while flying over water almost as vital as a parachute. It must have been about this time that Sergeant Stone began thinking about a remedy for the situation or problem at hand, for he went immediately to Lieut. Holloway, 6th Squadron Engineering Officer, and told him of his idea.

A description of his design follows, but the News Letter Correspondent is afraid that it will do small justice to the efficient way the device works. First, a place has to be found on or in which to carry the raft. In Sergeant Stone's mind, the baggage compartment door was the logical place. An opening 18" by 19" through which to pass a raft some six feet long by three feet wide presented a problem in itself but, by folding the raft, this difficulty was surmounted. Sergeant Stone duplicated the compartment door, and with twenty-four 25-inch lengths of shock absorber cord, affixed the raft to the door as a base. Incorporated in the fixture is a pin which, when pulled, releases the raft from the door.

Next, the problem of how to throw the raft clear of the horizontal stabilizer presented itself, and again, with the aid of shock cord, Stone solved the difficulty by placing cords across the entrance to the baggage compartment and utilizing its elastic effect to throw the raft out of the ship.

To throw the raft, the pilot merely pulls a device in the cockpit which releases the pin holding the baggage compartment door in place.

"Too much can't be said for this invention," concludes the News Letter Correspondent, "and we hope Wright Field feels the same way about it."

26th Attack Squadron (From Page 8) Wheeler Field Trade Schools for training enlisted men. Thus fate decreed that just as it was a School Squadron in its infant days, so in its last days of existence it again trains personnel for other units.

Orders were received Dec. 29th, redesignating the 26th Attack as the 26th Bombardment Squadron, effective December 6th.

RANDOLPH FIELD A REAL INSTITUTION OF LEARNING
By the News Letter Correspondent

Randolph Field, Texas, the "West Point of the Air" - the "City of Wings" - home of the Air Corps Primary Flying School, 496 student pilots strong.

That's one side of the school system at the Texas airdrome - and its main side. Classes of approximately 250 Flying Cadets and student officers enter every six weeks, remain for a twelve-weeks' course of basic flight instruction, then pass on to Kelly Field for their final phase before receiving their wings.

But - TEN other regularly scheduled courses of study, or instruction, are conducted regularly at Randolph Field every working day; total enrollment in all ten - 525.

In addition to the flying course, the first of the ten other schools is a three months' course for 25 officers, representing practically every station in the continental United States. It's an instructor's course in the operation and method of instruction on the Link Trainer. Twelve of the training devices were shipped in to Randolph Field and installed in Hangar "U" for the School's use. Four factory representatives - civilians - are conducting the course.

The second school is also a three months' course, the students being 24 enlisted men undergoing training in the care and maintenance of the Link Trainer. It is conducted by the same four civilian instructors from the factory. Enlisted personnel from every major Air Corps field are pursuing the course, which will be completed by the end of February.

A night course in Mathematics, two nights a week, for 170 enlisted men of Randolph Field is given at the third school. The instructors, civilian teachers from the San Antonio public school system, are paid by donations from the Post Exchange Fund. Students undergoing this course of instruction volunteered for it. They are showing such enthusiasm that an additional course of study in Business English and Army Paper Work is contemplated.

In the fourth school there is conducted a course in practical airplane mechanics. The enrollment is 80 enlisted men, from Master Sergeants down to recruit privates. The course is designed to refresh the memory of many veteran noncommissioned officers who have been in administrative work for several years. Judging from the response, the course, including work on the student test blocks, will be a continuing one.

The fifth school features a regularly prescribed course of instruction for junior officers with less than two years

service. The enrollment is 65 officers who attend night classes.

The sixth school - the School of Aviation Medicine - has an enrollment at this time of four Medical Officers of the Regular Army, with several additional officers from the National Guard expected before February 1st. In this school is given the regular three months' course for Flight Surgeons.

The seventh school is another School of Aviation Medicine project, but for enlisted men of the Medical Corps. Twenty-five potential Flight Surgeon's Assistants are deep in the intricacies of the Schneider Index and other phases of the Assistants' course.

At the eighth school, where the attendance is approximately 100 strong, the course of instruction is for Flying Cadet applicants from the ranks of enlisted men of Randolph Field. Several are expected to drop out after the physical examination, but many successful applicants are expected to take the mental examination for admission as Flying Cadets in the February examination.

In School No. 9 a total of 25 National Youth Administration men is assigned for practical training in various courses. One NYA man is studying practical photography in the photo department; another is assigned to the Meteorological office, and several are learning practical automotive mechanics in the Post Garage.

The tenth school, and the smallest of them all, provides a three months' course of instruction for seven enlisted men in the Post Weather Office. Regularly scheduled class room lectures are held daily from 7:00 to 11:30 each morning. Practical work is scheduled for every work-day afternoon.

Thus ends the roster of formal, regularly scheduled schools now being conducted at Randolph Field. Including the Flying Cadets and student officers in the regular flying course, a total of 1021 persons are enrolled in all the various classes.

Applicants for commissions in the Regular Army are studying individually for the exams scheduled for February, a course of classroom study and discussion being tentatively scheduled to get under way soon.

Don't forget the Post Grade School, part of Texas State School System. It is temporarily closed - reason, measles. The normal enrollment is about 125 youngsters.

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PROMOTION OF AIR CORPS OFFICERS

Effective January 1, 1940, Lieut. Colonels (temporary) Donald P. Muse and Asa N. Duncan, Air Corps, and Majors (temporary) Robert T. Zane and Leroy A. Walthall, Air Corps, were given permanent promotions in their respective grades.

Effective January 6, 1940, the following-named First Lieutenants of the Air Corps were promoted to the rank of Captain:

Norman B. Olsen	William R. Morgan
Curtis E. LeMay	Philo G. Meisenholder
Kenneth R. Crosher	John W. Egan
Louis E. Massie	Hanlon H. Van Auken
Stuart P. Wright	Robert O. Cork
William C. Dolan	William C. Mills
Ivan L. Farman	Herbert H. Tellman
Wm. A. Schulgen	John K. Gerhart
Daniel B. White	Harold L. Mace
Donald H. Baxter	Elder Patteson
Roy T. Wright	Francis H. Griswold
Edward W. Anderson	Leon R. Brownfield
John C. Covington	Robert W. Burns
Winslow C. Morse	Daniel W. Jenkins
Casper P. West	William M. Prince
Wm. L. Kennedy	Clarence F. Hegy
Jesse Auton	James P. Newberry
John P. Ryan	Stoyte O. Ross
Robert S. Macrum	Joseph W. Baylor
C. L. Munroe, Jr.	Wm. J. Clinch, Jr.
Llewellyn O. Ryan	

Effective January 1, 1940, Lieut. Colonel Benjamin G. Weir was promoted to Colonel (temporary) and Captain Dudley W. Watkins to Major (temporary), while effective January 18, 1940, Major Shiras A. Blair was promoted to Lieut. Colonel (temporary), and Captain Lyman P. Whitten to Major (temporary).

GRADUATIONS FROM TECHNICAL SCHOOL

On January 12, 1940, 124 students graduated from the Chanute Field Branch of the Air Corps School, the number taking instruction in different courses from the various Air Corps stations being indicated below, viz:

Fields	Courses							
	CS	ES	PS	RR&O	LTS	PR	IS	AM
Atlanta	-	-	-	-	1	-	-	-
Bolling	-	1	2	-	-	-	1	-
Boston	-	-	-	-	1	-	-	-
Barksdale	-	2	2	-	-	1	2	-
Chanute	1	1	1	20	-	2	1	2
Duncan	-	-	-	-	-	-	1	-
Fort Benning	-	-	-	-	-	1	-	-
Fort Lewis	-	-	-	-	-	1	-	-
Hamilton	1	-	1	-	-	1	2	-
Kelly	-	-	-	2	-	-	2	-
Langley	3	4	4	4	1	2	5	-
March	2	-	2	-	-	3	3	-
Maxwell	1	3	-	-	-	-	-	-
Wright	1	-	-	6	-	3	1	-

Fields	Courses							
	CS	ES	PS	RR&O	LTS	PR	IS	AM
Moffett	1	1	1	1	1	1	1	1
Phil. Army	-	-	-	-	-	-	-	-
Air Corps	-	-	-	-	-	-	-	-
Pope	1	1	-	-	-	-	-	-
Randolph	-	1	-	-	2	12	12	1
Scott	-	-	-	-	-	-	-	-
Selfridge	1	1	-	-	-	-	-	-
Total	12	16	15	33	6	16	22	4

Key:

CS -- Carburetor Specialists
 ES -- Electrical Specialists
 PS -- Propeller Specialists
 RR&O -- Radio Repairers & Operators
 LTS -- Link Trainer Specialists
 PR -- Parachute Riggers
 IS -- Instrument Specialists
 AM -- Aircraft Machinists

ARGENTINE AIR OFFICERS AT CHANUTE FIELD

Majors Luis E. Brizuela and Gustavo Hermannson, of the Argentine Air Corps, were recently assigned to Class 12 of Airplane Mechanics, Department of Mechanics, Chanute Field Branch of the Air Corps Technical School. The above mentioned officers each have twenty years of service with the Argentine Army, fourteen of which with the Air Corps. Both officers expressed their appreciation for the opportunity to be here and are very glad to learn and see how things are carried on in the U.S. Army Air Corps.

Various Schools at Randolph Field (Continued from Page 11)

Unofficial classes in Spanish and French are held several times per week. A couple of officers are taking night courses at St. Mary's University in San Antonio. Each of the six Squadrons hold regular classes for noncommissioned officers, recruit school, etc. All added together, the list makes an imposing addition to the main course of instruction at Randolph Field - teaching student pilots to fly BT-9's.

AWARD OF CONTRACT FOR PROPELLERS

The Assistant Secretary of War, the Hon. Louis Johnson, announced under date of January 29th that an award of a contract totalling \$1,040,172.00 had been made to the Hamilton Standard Propellers Division of the United Aircraft Corporation, East Hartford, Conn., for the procurement of Propeller Assemblies and Control Assemblies.

ACTIVITIES OF THE SECOND BOMBARDMENT GROUP

Lieut. Colonel Robert Olds, after three years' duty as Commanding Officer of the 2nd Bombardment Group, Langley Field, Va., was ordered to duty in the Office of the Chief of the Air Corps, Washington, D.C. The period during which Col. Olds was in command of the Group was one of hard work, experimentation and outstanding achievement for the organization. Under Col. Olds' exceedingly able direction, the Group has been so successful in demonstrating the feasibility as well as the desirability of the B-17 type airplane in Bombardment operations that this airplane has graduated from the doubtful, experimental stage to a position of first importance.

"These accomplishments are attributable directly to Colonel Olds' policies which resulted in maximum safety precautions being observed," says the News Letter Correspondent, "and at the same time maximum efficiency of operation and successful completion of missions were attained. His record of worthwhile achievements during these years speaks for itself. There is nothing of note that we can add. It has been a pleasure and a privilege to serve under such a leader. May the new year hold all that you desire of success and happiness. Goodbye, Bob, and good luck."

A board of examining officers, headed by Major John W. Monahan, with Major Edward A. Hillery, Captain George H. MacNair, 1st Lieut. Frederick E. Calhoun, Air Corps, and Captains K.E. Gould and Joseph A. Baird, Medical Corps, as members, met 21 Reserve officers of the 2nd Bombardment Group who are competing for the recently announced Regular Army commissions. Of these Reserve officers, three come under the provisions of War Department Circular No. 76, which permits men over 30 years of age to take the examination.

A tactical inspection of the Group was held by General Krogstad, the 2nd Wing Commander, and his staff. The inspection of troops was followed by an inspection of tactical transportation and hangar activities.

Headquarters and Headquarters Squadron:

The expansion program necessitated moving from brick barracks to three new temporary wooden barracks. Squadron personnel increased since December 1, 1939, to the extent of 20 enlisted men, causing a complete move to new quarters. The Squadron also began operating its own mess at this time in another wooden building adjoining the new location. Everything is running smoothly in the new "community"

and the men have taken an interest in improving the surrounding area.

In accordance with the Air Corps Training Program, the Squadron detailed students to the various branches of the Air Corps Technical School for training, one being sent to Scott Field, Ill., and three to Lowry Field, Denver, Colo. Three men were also sent to the Cooks & Bakers School at Fort Meade, Md.

96th Bombardment Squadron: The training for the latter part of December consisted of instrument requalification, routine bombing missions, and completion of specialized training for Reserve officers.

On December 6, 1939, this Squadron, forming the leading element of the Group, accomplished a demolition bombing flight on Mulberry Island. The bombs dropped were 1100 lb. and 600 lb. demolition, and the aftermath was considerable confusion and hysteria among the native inhabitants of the lower peninsula. Telephones began ringing with frantic calls for information as to where the earthquake was. There were also inquiries concerning a naval battle. Fears were soon allayed when word went forth that the Air Corps was doing a little practice bombing.

Captain W.C. Bentley and 1st Lieut. J.H. Feagin returned to the organization after completing the three months' course at the Air Corps Tactical School at Maxwell Field, Ala.

20th Bombardment Squadron: The Squadron recently received two B-17B airplanes, but at present are restricted to the B-17's because the "B's" have been grounded due to supercharger trouble.

Lieut. Carl W. Carlmark returned to the organization following his graduation from the Air Corps Tactical School, Maxwell Field, Ala., and the expiration of a leave of absence. Capt. N.B. Harding, the other graduate from the Tactical School, took ten days' leave.

Lieuts. Tate and Clark, with crew, in a B-18, spent five days at Maxwell Field, Ala., providing a tow ship with service test tow targets for the use of personnel at that station.

Information was received that this Squadron will expand and form the 25th Bombardment Group in February, 1940. Pending final station in Puerto Rico,

the new Group will occupy the Lighter-than-Air barracks at Langley Field.

The Squadron was busily engaged in camouflaging two B-17B's and one B-18 for display at Bolling Field, D.C., during January.

49th Bombardment Squadron: Captain F. H. Robinson and 1st Lieut. R. S. Freeman, both of the 49th Bombardment Squadron, returned to Langley Field on December 9th with another new B-17B for this Squadron. This newest addition brings the total of available ships up to thirteen - 3 B-17B's, 4 B-17's, 3 B-18's, 1 A-17 and 2 P-12's. The Squadron expects to have its fourth B-17B by February.

In a recent 2nd Bombardment Group tactical mission in which three of the 49th Squadron's B-17's participated, many interesting developments took place. The 8th Pursuit Group was to intercept the 2nd Bombardment Group after leaving the initial point. The altitude for the initial point departure was 25,000 feet, and a gradual descent from the sun towards the target was to be made so as to level off for the bombing approach at 12,000 feet.

The Squadron reached its authorized strength of 206 men. In addition, 18 men are attached to the Squadron, who are assigned to various duties. The new recruits are being trained in their respective departments by new methods of instruction which are designed to keep pace with the expansion program, and the results are pleasingly impressive.

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27TH SQUADRON ESTABLISHED IN PORTO RICO

The air echelon of the 27th Reconnaissance Squadron, Air Corps, led by Major Delmar H. Dunton, arrived at Borinquen Field, Puerto Rico, from Langley Field, Va., for permanent change of station, on December 5, 1939. The flight consisted of nine B-18A's, with a crew of 20 officers and 28 enlisted men. Overnight stops were made at Miami, Fla., and Camaguey, Cuba. Since no difficulties were encountered and good weather conditions prevailed, the trip was enjoyed by all concerned.

The remaining officers and enlisted men of the Squadron arrived at San Juan, Puerto Rico, from Old Point Comfort, Va., aboard the U.S. Army Transport CHATEAU THIERRY, on November 21, 1939.

The camp is undergoing construction, and at present consists of a 5,000-foot temporary runway, a few temporary buildings and a tent city sheltered by beautiful palm trees. The Squadron is

in full operation, however, and flying goes on as per schedule. Weather conditions are ideal for flying, with practically unlimited ceilings and visibility.

"Recreation," says the News Letter Correspondent, "has been limited to playing with coconuts and going for strolls along the miles of beautiful sandy beach. Swimming was somewhat discouraged when a number of sharks were seen lurking near the shore. With the high morale of the Squadron, and construction progressing rapidly under the direction of Major Karl S. Axtater, Air Corps, Borinquen Field should be on a top very soon."

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DEATH OF PROMINENT AIRCRAFT MANUFACTURER

On hearing of the death of Mr. Don L. Brown, President of United Aircraft Corporation, Major General Henry H. Arnold, Chief of the Air Corps, made the following statement:

"The report of the passing of Mr. Don L. Brown, President of United Aircraft Corporation, was a great personal shock to me, and will be received by the entire Air Corps with the sorrow that comes from the loss of a true friend and staunch supporter."

Mr. Brown has been intimately associated with aviation since 1915. In 1921, he became Assistant Factory Manager of the Wright Aeronautical Corporation and has been personally interested in the development of the engines of that company and of Pratt and Whitney for the past nineteen years. During this time, he has worked closely with Air Corps officers, has understood their problems, and has striven energetically and successfully in the production of power plants for airplanes which have to do so much to maintain the preeminence of American military aviation. The entire Air Corps joins the aviation industry in mourning the passing of one of its great pioneers and outstanding gentlemen."

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THE NEW SECOND BOMBARDMENT GROUP COMMANDER

Lieut. Colonel Clyde V. Finter, Air Corps, assumed command of the 2nd Bombardment Group, Langley Field, Va., on January 5, 1940, when Lieut. Colonel Robert Olds left for duty in the Office of the Chief of the Air Corps, Washington.

Colonel Finter, says the News Letter Correspondent, is very popular with the officer and enlisted personnel of the 2nd Bombardment Group, and "we all wish him the best of luck in his new found duties as 'OUR' Group Commander."

V-8335, A.C. at

IMPROVEMENTS IN WRIGHT FIELD MOTION PICTURE BRANCH
By the Materiel Division Correspondent

New sound recording equipment now being installed in the Motion Picture Branch of the Materiel Division at Wright Field is comparable to that used in the motion picture studios on the West Coast. This Branch heretofore was somewhat handicapped by the limitations of available equipment. When the new equipment is put into use, the quality of the technical, historical and educational films produced for the Air Corps will be on a par with commercial news reels and short subjects, and correspondingly more effective.

The improved sound film recording and re-recording machine consists of three film phonographs and one sound projector with the four units interlocked electrically with constant speed motors. The film phonographs provide a means of reproducing a sound film track through a loud speaker and at the same time transferring this sound to a sound record machine. A mixer permits mixing the various sounds in any combination of volume desired. This method is more economical than the old system, which sometimes necessitated many "trial" mixes.

Thus four different sources of sound can be edited as desired onto a single sound track. For example, a film requiring motor noise, voice, machine gunning and bombing in the same scene, can be produced with complete control so that the voice remains audible and the firing does not drown out the engine noise.

Until now, reproduction of the four noises just mentioned could be accomplished only with difficulty, if at all. It was necessary to make separate recordings of each sound. The four records were then placed on four turntables (similar to Victrolas) and played into a single microphone to combine them into one sound track. Adequate control of the volume of each of the four sounds was extremely difficult, and placement of the separate sounds according to the scenario was tedious, even with two sounds, and virtually impossible with a larger number. The new equipment can readily combine four sounds in any proportion, and should such a requirement arise, superimpose three new sounds on the first four, and three more on the first seven, etc.

The Motion Picture Branch also announced that three sound film projectors will soon be sent out for service testing. These are modern versions of the old lantern slide projector. Sound is added by incorporating a phonograph

attachment which supplies the description or instructions with a simple method of synchronizing the sound with the film.

Reports from the service test will determine whether this projector is suitable for a new form of instruction and education.

Slides, with all their attending awkwardness, are completely eliminated. Thirty-five millimeter strip-film is used. A lever shifts scenes as desired. The first scene is easily framed in the projector. Proper sequence is automatic and "upside-down" mistakes impossible after the first scene has been shown correctly.

Should it be desired, the film can be shown without sound and the lecturer's description substituted, or additional explanation can follow the recording description.

Three types of subjects will be used:

1. Illustrations of selected Air Corps Technical Orders.

2. Instructional types dealing with the construction and maintenance of an item of equipment.

3. A public relations type, using selected training centers as subjects.

The slides which illustrate Technical Orders will be produced to supplement specific Technical Orders, which can best be explained by pictorial description, but in no case will the slides replace printed Technical Orders. Captain J.H. Fite, Chief of the Motion Picture Branch, emphasized.

The slide projectors are readily portable and can be plugged into any lamp socket. One advantage over motion picture equipment is that an inexperienced operator can handle it.

Accordingly, they can be used where no motion picture equipment is available. The sound recording can be made by an expert who has specialized in the subject, so that an ideal medium of dissemination of latest developments may result. If service tests substantiate this belief, the projectors will be useful in widespread distribution of technical improvements within the Air Corps, in certain phases of public relations, and as an effective means of study by enlisted men.

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Special Orders of the War Department direct Captain John W. Kirby, Air Corps, stationed at Barksdale Field, La., to proceed to his home on or about February 10, 1940, and await retirement.

A FERRY FLIGHT TO PANAMA

By 2nd Lieut. Orville L. Oakes, A. C.

It seems that the trips to Panama, for the purpose of ferrying airplanes, are more or less of a mental hazard due to wide differences in climatic conditions, elevations of different landing fields, and the fact that quinine makes the head roar and causes loss of sleep and relaxation.

On the recently completed trip in December by Captain Lloyd H. Watnee and Lieut. Orville L. Oakes in a C-39 Transport, four YA-19 Vultee Attack planes and one OA-8 Sikorski Amphibian were taken to Panama and the personnel then returned to Barksdale Field.

The flight started on December 11th from Barksdale Field, La., the home station of Captain Watnee, who was designated Flight Commander during the entire trip by radiogram Special Orders of The Adjutant General's Office and special authority from the Chief of the Air Corps. At eight thirty that morning, Captain Watnee and his crew, consisting of Lieut. Oakes as co-pilot; Staff Sergeant Forest Chandler, Aerial Engineer, and Private H.E. Bamberg, the Radio Operator, were ready for take-off in the C-39 Transport assigned for the flight, designated KT-9.

Barksdale Field was cleared at 8:40 a.m., with the flight plan showing Duncan Field, San Antonio, Texas, as our destination on this first leg of the journey.

The Weather Station had given us clear and unlimited except for a dense ground fog the first thirty minutes out or approximately the first 85 miles from Shreveport. We were only eight minutes out of Barksdale when the left motor oil pressure gauge began a gradual descent in reading, and at eight fifty the red warning light on the left motor oil pressure system was flashing us a tell-tale story of "Turn around Mr. Doakes and seek some terra firma." So at once we did that very thing and called the radio control tower, telling them that we were turning back on account of oil pressure failure, and requesting permission to notify traffic so that we could come right in and land without any delay as we approached the field. At exactly nine o'clock we were back on the line at Barksdale, and the ground crew turned out to give the oil system the once over.

Sumps, pumps, hoppers and cuno strainers were checked, and it was found that carbon collection on the manually operated cuno strainers had caused the pressure failure. This meant that when we reached the Air Depot at Duncan Field we would get these cunos replaced with

the new automatic revolving cunos which cleans itself by being rotated by the oil pressure. The carbon deposits were washed out, the strainers replaced, and by ten o'clock we were on our way again. The ground fog had disappeared, and we proceeded to San Antonio without further incident. We could see Austin, Texas, 25 miles away, and San Marcos and New Braunfels soon came into view. At ten minutes past twelve we landed at Duncan Field, and our flying for that day was over.

After unloading our baggage and getting settled at the Officers' Club at Duncan Field, we began to check up on how many of the other planes of the flight had arrived and when all of them would be in. We learned that the OA-8, a large Sikorski Amphibian, piloted by 1st Lieut. A.E. Pierce, with 2nd Lieut. W.E. Basye, co-pilot, and crew consisting of Staff Sergeant W.A. Carter, Aerial Engineer; Private S.D. Beaton, radio operator, had arrived on December 6th, in order to put their plane in the Depot for repairs. One YA-19 had been ferried from the World's Fair Display, via Wright Field, Dayton, Ohio, to Duncan Field, and was also in the shop for repairs. This is a large single-motored Attack plane, built by Vultee. Three more of this type were scheduled to arrive from March Field at 5:30 p.m., thus completing the complement of planes scheduled to go to Panama in this flight.

At 5:35 we saw the three YA-19's in formation coming in from the West, as expected. These ships had left March Field early in the morning and had flown to Biggs Field, El Paso, Texas, for gasoline, and luncheon for the personnel, and then departed for San Antonio. Lieut. Aaron W. Tyer, the flight commander of this formation, signalled for a column landing, and the three planes pulled in to the line at Duncan Field at exactly 5:40 p.m., just about ten minutes after Old Sol had hidden his face behind the horizon and left a ruddy twilight glow in the western sky. The other pilots and crew members of this flight were 2nd Lieuts. J.W. Dennison, W.A. Hatcher and Clyde Box, Air Corps. Technical Sergeant M.H. Geier and Staff Sergeant Frank Bayne rode as passengers to Panama with the flight, and remained there pending transfer to South American assignments. Lieut. Dennison was to proceed from Panama to Venezuela, where he has been assigned as Assistant Attache.

Tuesday, December 12th, was spent in organizing the officer personnel of the flight into an administrative set-up by the Flight Commander, and the following Departmental assignments were made:

Operations and Deputy Flight Commander:
 1st Lieut. A. W. Tyler;
 Assistant Operations:
 2nd Lieut. Clyde Box;
 Adjutant: 1st Lieut. G.E. Pierce;
 Billeting, Transportation and Agent
 Finance: 2nd Lieut. William E. Basye
 Supply: 2nd Lieut. William A. Hatcher;
 Engineering: 2nd Lieut. J.W. Dennison;
 Communications: 2nd Lieut. Orville L.
 Oakes.

Wednesday, December 13th, was spent in checking with the Depot on the air-planes and equipment, and making a trip in the C-39 to Randolph Field to visit the Finance Officer. Arrangements were made for the payment of vouchers and estimates on the amount of money needed for expenditures enroute.

Thursday, December 14th, was spent getting ready and making necessary diplomatic arrangements.

Friday, December 15th, was spent making final checks on planes and getting off last minute detailed radiograms.

On Saturday, December 16th, all ships were ready except one YA-19. On Monday, the scheduled date of departure, one plane was still not ready, but orders came stating that permission from Mexico had been granted and that the flight would proceed as originally scheduled.

At 1:40 p.m., Captain Watnee in the C-39 with the flight of one OA-8 and three YA-19's departed for Brownsville. A radiogram from the Chief's office ordered us back to Duncan Field to wait for instructions on carburetor changes and until the other plane was ready to accompany the flight. We immediately took off for San Antonio and landed at Duncan Field at 6:15 p.m.

Tuesday, December 19th, the entire flight cleared Duncan Field at 11:15 and landed at Brownsville at 12:55. Preparations were made to remain overnight. Captain Watnee made official calls on the Mexican officials in Matamoras, and all personnel stopped at the El Jardin Hotel.

On December 20th we departed from Brownsville for Vera Cruz, Mexico, leaving at 7:40 and arriving at 10:55 a.m.

Departing from Vera Cruz at 7:10 a.m., December 21st, we arrived at Guatemala City at 10:55 a.m.

On December 22nd we departed from Guatemala City at 7:25 a.m., and arrived at San Jose, Costa Rica, at 11:25 a.m.

Leaving San Jose at 7:25 a.m., December 23rd, we arrived at France Field, Panama Canal Zone at 11:50 a.m. Lunch-
 eon, and a lovely affair it was, was served by the officers and ladies of the Club. Major House and his command sent their best wishes to their friends in the States. We departed from France

Field at 2:55 p.m. for Albrook Field, and arrived there twenty minutes later. The YA-19's and OA-8 were left at the Depot at France Field. We remained at Albrook Field over Christmas and were very royally entertained by the officers on duty there. Lieut. Dennison remained in the Canal Zone pending his departure for Venezuela.

On December 27th we departed from Guatemala City at 6:25 a.m., and made a dash for home, arriving at Vera Cruz at 9:45 a.m.; took on gas, and departed at 10:20 for Brownsville, arriving there at 1:15 p.m. Here the customs officials looked over all our shopping gains and purchases which we had made in Panama and Guatemala. Departing from Brownsville at 2:45 p.m., we arrived at Duncan Field at 4:25 p.m. After turning in pistols and jungle kits we departed at 4:55 p.m. for Randolph Field and arrived there at 5:20 p.m. Here our Agent Finance Officer checked in his extra shekels with the Finance Officer. We then departed from Randolph Field at 6:00 p.m., and two hours later landed at Barksdale Field, La., our orders carried out and the trip completed. Everyone on the flight enjoyed the whole routine, felt that they had really been some place, and were glad to get back.

The entire trip went along smoothly and without special incidents of any kind.

Guatemala City, Guatemala, is one of the most beautiful cities in Central America. The country is most impressive, due to modern advancement, with its beautiful lakes and mountains and extremely clean cities. All people in the different Central American countries are very hospitable and respectful toward American visitors. The trips are certainly educational for any individual who has never been in southern countries. All personnel at France and Albrook Field sent season's greetings and best wishes to their many friends and acquaintances in the States, particularly in the Air Corps.

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8TH BOMB. SQUADRON STAGES GET-TOGETHER

The 8th Bombardment Squadron at Barksdale Field, La., on Saturday, January 14th, gave a dinner in the Squadron mess hall, the occasion being a sort of "round-up" of available former members, and all present personnel, to - (1) celebrate the promotion of many of its deserving members to higher grades in line with the Air Corps expansion program; (2) commemorate the recent redesignation from Attack to Light Bombardment, and (3) to bid farewell to

those who will be assigned to new organizations as they are formed in the expansion program.

Brigadier General Frederick L. Martin, 3rd Wing Commander; Major Lester J. Maitland, former Commanding Officer of the 8th Squadron and famed Trans-Pacific flyer; Major Younger A. Pitts, former 8th Squadron Commanding Officer, and Captain Felix Guillet, present Commanding Officer of the Squadron, were the main speakers who addressed the gathering. Master Sergeant Klinger, 8th Squadron First Sergeant for a number of years, also spoke. He has the distinction of having been a member of the 8th for fifteen years, which is believed to be a record in the service. He has gone from Private to Master Sergeant in the same squadron.

Lieut. Charles D. Jones has been assigned to the 8th Squadron for four years and 10 months, thereby establishing another record for length of service for an officer. He addressed the men and congratulated them upon their promotions, saying further that the enviable record set by the organization was due largely to a number of old hands who kept the airplanes in such fine condition that a pilot never had to worry about the condition of a ship once it was turned over to him for flying.

Major Maitland, who commanded the 8th for three years, recalled the safety record of not a single casualty in the past seven years of operation, although flying under very rigorous conditions during certain maneuvers.

All speakers commended the Squadron for its high morale and loyalty, and recommended that this "esprit de Corps" be carried with those who became members of the newly formed squadrons in the future.

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"OPEN HOUSE" AT HAMILTON FIELD

Hamilton Field, San Rafael, Calif., played host to more than one thousand local citizens on Sunday, January 21, 1940, when the Bombardment Base held "Open House" for the public.

Under the direction of the Public Relations Officer, exhibits of Aerial and Ground Photography and Equipment by the 88th Reconnaissance Squadron Photo Section; Armament and Bombing Equipment by the Ordnance Detachment; Cutaway Engines by the Base Engineering Section, and Parachutes by the Parachute Department provided great interest for the public who viewed them. Also on exhibition were airplanes ranging from the single-motored A-17A to the big B-17B Bombardment plane.

SCHOOLING FOR AIR CORPS ENLISTED MEN

Colonel John F. Curry, Commanding Officer of Hamilton Field, Calif., and Major Raymond Morrison met with local and State educational leaders on January 15th, and plans were made for the organization of classes in various subjects which are believed will benefit enlisted men at the Hamilton Field Air Base. Some 150 enlisted men have signified their intention of pursuing certain courses. The educators who met with Colonel Curry and Major Morrison included: Dr. J.C. Beswick and J.T. Sullivan, State Department of Education; Oliver R. Hartzell and E.A. Wells, Supt. and Principal, San Rafael High School; E.E. Wood, Principal, Tamalpais High School; A.C. Onley, Principal of Marin Junior College; H.E. Greer, Marin County School Superintendent, and C.A. Cooper, Counselor. It is planned that the state and county school organizations furnished the teaching staff.

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APPRENTICES GRADUATE FROM SAN ANTONIO AIR DEPOT.

The first result of the apprentice system, established in the Engineering Shops of the San Antonio Air Depot, Duncan Field, Texas, about four years ago, was observed on January 12th, when the members of the first graduating class of apprentices received their certificates of graduation as journeymen in their respective grades. The certificates were presented, with an inspirational talk, by Lieut. Colonel Henry J.F. Miller, the Depot Commander, in a short ceremony. Those graduating comprise Russell L. Zwiener, aircraft machinist; John D. Griggs and Hector Perez, both aircraft sheet metal workers; Guido E. Jordan, Jr., aircraft engine mechanic, and Robert J. Breit, aircraft electrician. Breit has been transferred to the Air Corps Materiel Division, Wright Field, Ohio, as Junior Electrical Engineer. The apprentice system was first established at the San Antonio Air Depot and later was extended to include the other Air Corps Depots in the United States.

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Despite the weather man's apparent indifference to what is laughingly termed the "Sunny South," Flying Cadet training at the Alabama Institute of Aeronautics, Inc., Tuscaloosa, Ala., has been quietly progressing at a steady roar. With Class 40-E well started on dual time, and Class 40-D having visions of Randolph Field in the offing, the Flying Cadet barracks all but sprouted wings from the talk flying hither and yon. V-8355, A.C.

CHANGES IN PATENT OFFICE PROCEDURE

By Congressional Act, changes of interest to Air Corps engineering personnel at Wright Field and throughout the Army have been made in the Patent Laws for purposes of reducing certain of the statutory periods within which patent protection may be obtained and of preventing dilatory practices in the prosecution of patent applications before the United States Patent Office.

Heretofore, public use, or sale, or a printed publication of an invention more than two years prior to the filing of an application for patent constituted a bar to the obtainment of patent protection. According to the present law, after August 5, 1940, the period is one year.

Certain dilatory practices are curbed or stopped by the following changes:

1. The statutory period for answering an Examiner's action may be changed by the Commissioner of Patents in particular cases from six months to any shorter period not less than thirty days.

2. Renewals as such are abolished. However, the Commissioner of Patents may, in his discretion receive the final fee if paid within one year after the six-month period for payment has passed.

3. Claims may not be copied from an issued patent for interference purposes after one year from date of issue, effective August 5, 1940.

4. A Board of Interference Examiners is set up to determine the question of priority of invention, and its decisions are not reviewable by the Board of Appeals.

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MASS MOVEMENT OF TROOPS BY AIR

Out of the trenches and into the skies, an entire battalion of Regular Army troops loaded 38 big Bombers at Hamilton Field, Calif., on the morning of January 23, 1940, and took off southward on a 500-mile aerial "march."

The movement, first of its kind in American history, took 342 men and 12 officers of the 65th Coast Artillery, simulating a streamlined Infantry battalion, with full field equipment, including ammunition and food, deep into the territory of a synthetic enemy. The flight came as 12,000 Army troops concentrated in Camp Ord after a week of intensive war maneuvers on the Monterey Peninsula and elsewhere in Northern California.

All of the flying doughboys wore parachutes. No parachute descent after the Russian style was planned, but every man in Army aircraft is required by Army Regulations to wear one of the

aerial life-savers.

Each fighter in the flight was equipped with full pack, rifle, ammunition, and all fighting gear, with food enough to maintain himself for one day away from a camp or post.

The flight sought to test whether a complete unit could move to a threatened position, taking everything they needed to maintain themselves. The fact that the flying troop transports landed at Bakersfield, some 100 miles short of their March Field goal, was not considered evidence of failure of the movement, since orders to land because of bad weather ahead would not have been given under the same circumstances in war times.

The flying units participating were the 7th Bombardment Group from Hamilton Field, Calif., under the command of Lieut. Colonel Ralph Royce, and the 17th Bombardment Group, of March Field, Calif., commanded by Colonel Carlyle H. Wash.

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MISCELLANEOUS NOTES

In conjunction with the Air Corps Expansion program, the Alabama Institute of Aeronautics, Tuscaloosa, Ala., is carrying on the Civil Aeronautics Authority training of students of the University of Alabama. Five of seventy of these students are of the weaker sex and, when one of this quintet, a Miss Sue Clarkson, of Tuscaloosa, Alabama, was questioned as to whether she would ever care to be a hostess on a B-17, she answered: "But definitely!"

At the Alabama Institute of Aeronautics, members of the Flying Cadet Class 40-E, 39 in number, recently attended an insurance lecture given by the Air Corps Supervisor. Following this lecture, 1st Sergeant Jacobs proudly announced the sale of 100% Government Insurance to this Class.

Lieut. H.M. McCoy, of the Propeller Laboratory, Wright Field, Ohio, presented a paper, entitled "Counter-Rotating Propellers," before the Aerodynamic Session II, Eighth Annual Meeting of the Institute of the Aeronautical Sciences, Inc., New York City, on January 26th.

A summary of the development of dual-rotation (oppositely rotating) propellers, and a description of their application to high performance single-engine and multi-engine airplanes were treated.

At France Field, Canal Zone, Lt. Byron E. Brugge is conducting a thorough course for most all new officers in dead reckoning navigation.

AERIAL REVIEWS IN PANAMA CANAL ZONE

An impressive aerial review, honoring upon his arrival Major General Daniel Van Voorhis, new Panama Canal Department Commander, was provided by the 19th Composite Wing late in December. A few days later, a similar review was flown in honor of Major General David L. Stone, who returned to the United States for duty from the Canal Zone.

Six airplanes of the 74th Bombardment and 44th Reconnaissance Squadrons, Albrook Field, and a similar number from the 7th Reconnaissance and 25th Bombardment Squadrons, France Field, participated in the review for General Van Voorhis.

As it neared the breakwaters at Cristobal on the Atlantic side of the Isthmus, the planes met the Army Transport bearing General Van Voorhis and circled it until it was ready to dock. The planes passed in review several times.

A similar lineup of planes was provided for a review for General David L. Stone as he embarked from Cristobal on a commercial line boat, but the Navy Patrol Wing, based at Fleet Air Base on the Atlantic side, also provided 12 planes for the event.

Brigadier General Herbert A. Dargue, Air Corps, led the review, flying an OA-8 Amphibian.

A rousing send-off was given General Stone, both when he left Balboa for Cristobal and as his boat sailed from the port of Cristobal.

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ACTIVITIES AT FRANCE FIELD, CANAL ZONE

At France Field, effective February 1, 1940, the new squadrons will be activated, which means plenty of hard work and long hours for all. "The task," says the France Field Correspondent, "is a tremendous one and an awful headache when considering all problems, especially personnel. Help in the form of experienced personnel is coming in small dribbles, but the basic plan is well laid so every additional experienced man will serve as an aspirin."

The three new 300-man capacity temporary barracks are rapidly nearing completion, and it is hoped that the first squadron will move into its new home about the middle of January.

The new general mess building for the 6th Bombardment Group should be ready soon. Until the building is completed, however, the old General Mess will continue to be used. The little walk across the road will be more than compensated for by the doing away with of 'upper and lower' bunks. That 'sardine'

feeling will be no more!

Twenty-two new graduates of the Training Center reported for duty here December 26th. They have all been assigned to various squadrons in the 6th Bombardment Group and 16th Air Base.

They have a big job cut out for them, as under the expansion program they did not specialize in any particular branch of the flying school and now must concentrate on learning the duties of Bombardment pilots, co-pilots, navigators and bombardiers.

Lieut. Graves H. Snyder is giving all radio men a complete course in radio operation technique, theory, joint Army-Navy radio procedure, etc.

Each squadron holds regular instruction periods for all squadron officers and selected noncommissioned officers in bomb sight theory and training.

All Reserve officers are "boning" for the exams for regular commissions which start February 13, 1940.

All new recruits who arrived on the December 26th boat are undergoing the usual recruit training routine. Barracks and even hangars were so crowded on their arrival at the field that they had to be quartered in the gym. Fortunately, this only lasted until January 4th, when 100 men were sent to Rio Hato, the new Howard Field, to serve a work detail with the Engineers.

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A-17's FOR RANDOLPH FIELD

Fifteen A-17's and A-17A's are en-route to Randolph Field, Texas, on temporary loan to augment the complement of basic trainers now in use at the "West Point of the Air."

Student training activities require the use of all available BT-9's, each plane averaging almost 100 hours per month. To provide adequate facilities for the carrying on of the War Department Training Activity, the Attack planes have been borrowed from Hamilton, March and Langley Fields.

Delivery to Randolph Field of the recently ordered BT-13's and BT-14's is expected to get under way soon. At that time the A-17's will be returned to the bases from which they came.

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War Department Special Orders directed the retirement from active service on January 31, 1940, of Captains Clarence C. Wilson and George L. Murray, Air Corps, both having been found by an Army retiring board incapacitated for active service on account of disability incident thereto.

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MASTER SERGEANT ELIGIBLE LIST

Effective January 1, 1940

No.	Name	No.	Name
1	Elmer Bruss	26	Robert Flick
2	Thomas P. Atkinson	27	Jacob S. Brown
3	Forest Smith	28	William F. Henry
4	Joseph H. Benevides	29	Paul Lash
5	Joseph F. Murray	30	Abram Brown
6	Clarence D. Green	31	Francis K. Miller
7	Edward L. Carr	32	Courtney K. Mueller
8	Paul D. Bennett	33	Elmer H. Fisher
9	Chas. C. Cunningham	34	Maurice Gorin
10	John S. Crocker	35	Charles Gardick
11	Donald S. Williams	36	Fred'k J. Leonard
12	Donald S. Hamilton	37	Samuel Doman
13	William Hoagland	38	*Rupert E. Ferguson
14	*Frank A. Heidelberg	39	Lawrence Smith
15	*Harry Kramer	40	John Pryor
16	Lloyd Parmentier	41	Clyde L. Falls
17	*Joseph Danhoff	42	Luther Shelton
18	*Harry J. Hall	43	Cecil Pruitt
19	Golden R. Davis	44	Luther W. Fagan
20	*George Dougherty	45	*Burton C. Maynard
21	Martin Brucher	46	Nissin Gessula
22	James W. Porter	47	*David McKee
23	Anthony J. Gorges	48	*James H. Van Horn
24	*Harry K. Johnson	49	Lawrence J. Darcy
25	*Gordon B. Cumming	50	Roland H. Antrim
		51	*O. S. Blennerhassett

Note:

* Asterisk in front of name denotes grade of First Sergeant; remaining noncommissioned officers hold grade of Technical Sergeant.
Since January 1, 1940, the first five non-commissioned officers listed above were promoted to the grade of Master Sergeant, so that at this writing technical Sergeant Clarence D. Green is No. 1 on the eligible list.

TECHNICAL SERGEANT ELIGIBLE LIST

No.	Name	No.	Name
1	John P. Williams	29	David M. Derrick
2	Don L. McClaskey	30	John Marchewka
3	Millard E. Ketchum	31	Charley B. Lay
4	Melvin R. Hagain	32	Lester G. Hancock
5	Allen Oliver	33	Gustav Schafer
6	Leewood Hall	34	Wm. A. Gilmore
7	Ray Weaver	35	Horace R. Riley
8	William B. Miller	36	Cecil A. Patton
9	*Albert C. Bergis	37	Gerald L. Slorf
10	Edward H. Gray	38	Clarence L. Hobbs
11	William R. Smith	39	John J. Kotarski
12	*Ralph H. Collins	40	Ernest Chaput
13	Joe Howard	41	George E. Johnson
14	Rives Bryant	42	Wilbur M. Booher
15	Louis J. Koster	43	Jesse Webb
16	Elvin W. Clem	44	Anthony Mangifesti
17	*H.B. McElhenry	45	Glen L. McLean
18	Kenneth A. Huber	46	Guy M. Shockley
19	Elmer L. Wendell	47	M.R. Shortridge
20	Bert O. Craft	48	John M. Llewellyn
21	John F. Hale	49	Palmer M. Melhus
22	Joseph R. Flanary	50	*Charles M. Ernst
23	William E. Self	51	William H. Sechrist
24	Wm. A. Covington	52	Dell J. Warner
25	Howard E. Rinehart	53	Mike Cibinic
26	Herbert R. Hall	54	G.P. Dougherty
27	Leland E. Capps	55	James F. Stuart
28	*Lloyd T. Burval	56	Charles O. Reed

No.	Name	No.	Name
57	Howard J. Phipps	126	Claude E. Boyle
58	Anthony P. Tomko	127	Lester W. Light
59	Frank W. Smith	128	Louis A. Goldstein
60	Niles L. Ehrhart	129	Malcolm W. Pettet
61	Walter E. Hartman	130	Harry W. Fine
62	*Sanford C. Stroop	131	Lyle Haas
63	Charles H. Oseland	132	Jacob E. Moore
64	*Loverd B. Agee	133	Albert Graham
65	Ernest L. Higgins	134	*Myer Fried
66	Ira W. Leonard	135	Orval E. McMahon
67	Roland O. Peone	136	Elden K. Tindall
68	Samuel P. Freeman	137	Ambrose Fitzgerald
69	Donald J. Fullerton	138	Samuel V. Anthonie
70	Kenneth A. Hambel	139	William Lasky
71	Harold M. Myers	140	Percy Branscom
72	Eugene C. Mincke	141	Donald F. Parks
73	Grant W. Gibson	142	J.D. Stephenson
74	Morris A. Peacock	143	Russell H. Butts
75	John P. Milbourne	144	Carl Heydorn
76	*Hugh C. Ratliff	145	Wallace R. Cramond
77	Ira D. Slater	146	Arthur T. Henderson
78	Francis P. Neal	147	Jewell S. Wilson
79	Richard G. Winters	148	Luther S. Rose
80	Carlton M. Oaks	149	Elder M. Knoeoffe
81	Claude F. Jackson	150	R.H. Chalmers
82	John J. Stibel	151	Ned A. Blann
83	Ben A. Dalesio	152	Kermit I. Johnson
84	Marcus L. Grant	153	Archie B. Hill
85	Askel E. Jorgensen	154	Herbert T. Kosub
86	Charlie T. Hargis	155	Charles C. Lyon
87	George M. Bogsted	156	L.E. Abraham
88	Walter W. Mason	157	A.W. Robertson
89	Andrew L. Runkle	158	Delmar F. Wolf
90	Walter B. Miller	159	*R.H. Ellsworth
91	Mark D. Hunt	160	John O. Briegel
92	Warren R. Miller, Sr.	161	Tony Boeko
93	Joseph A. Melost	162	N. Hashpereff
94	Henry D. Ivey	163	P.R. Williams
95	Emerson R. Johnson	164	Daniel J. Cooley
96	K. W. Patterson	165	Joseph Hall
97	Robert W. Lang	166	James J. Boutty
98	Augustin A. Gaudry	167	Leo F. Eby
99	Fred W. Bock	168	Frank Ritz
100	Albert C. Hinkle	169	Herman Keller
101	Angus S. MacLaeon	170	*Oscar M. Stonberg
102	Roland L. Dustin	171	Gustav A. Strobel
103	Cecil C. Cross	172	David M. Cordell
104	Paul Murtha	173	Wesley F. Cummins
105	Lawrence W. Street	174	Henry K. Brand
106	Ernest C. Wood	175	J.A. Callender
107	Henry Temoson	176	Virgil J. Vallier
108	Harry R. Hinkley	177	Elmer R. Wyckoff
109	Roger F. Freggens	178	Wilson D. Nichols
110	Kenton S. Brown	179	Joseph L. Oppelt
111	Everest F. Waid	180	Jesse L. Danser
112	Anton M. Jefsen	181	Ezra E. Ebel
113	G.A.L. Genoway	182	Ralph C. Eskew
114	Francis H. Monahan	183	Norwood Gray
115	John E. Williams	184	Bertie N. Kohlert
116	Thomas S. Adams	185	Albert H. Bubbs
117	Harry A. McLain	186	Corb L. Flick
118	Clarence T. Strahan	187	A.V. Holloway
119	Louis Abrams	188	Eugene K. Schmidt
120	James Pilizari	189	Herbert M. Cook
121	John W. Britton	190	Edward F. Donahay
122	Reginald Fletcher	191	John O. Fleming
123	Charles M. Marx	192	H.W. Elliott
124	Arvin L. Baize	193	Edgar F. Hamilton
125	Harry Curley	194	John Tierney

No.	Name	No.	Name
195	Lyndon McClaran	236	Andrew G. Marsh
196	Ludwig Kurrle	237	Marvin Nix
197	Leslie O. Morris	238	Eugene M. Stevens
198	George D. Jones	239	Maurice E. Henry
199	Robert H. Spencer	240	Frederick Roeper
200	Leroy J. Porter	241	Joseph P. Shine
201	Roy L. Clarke	242	Kenneth D. King
202	Harold S. Cooper	243	Joseph E. Pung
203	Chas. H. Woodling	244	Stuart S. Brougher
204	Charlie Trapp	245	Albert L. Stager
205	Emmett M. Lesper	246	Harold J. Courtney
206	Joseph F. Groya	247	*Harold S. Oberg
207	Chalmers P. Smith	248	Lewis Voiers
208	Harold C. Smith	249	Calvin W. Curlen
209	Robert J. Bailes	250	Sam D. Hamilton
210	LeG. O. Zimmerman	251	Charles F. Harris
211	Wm. M. Vandiver	252	Howard F. Sitler
212	Walter J. Murray	253	Allen E. Cato
213	C. T. Babaian	254	Elmer J. Molleson
214	Gerald E. Whaley	255	John B. Long
215	Edward M. McGrath	256	Harvey H. Jones
216	Aaron Murphy	257	George V. Fridy
217	George A. Bridges	258	Elias J. McHenry
218	Arnold B. Wyner	259	*Joseph A. Quinn
219	James R. Thompson	260	Adrian C. Emery
220	Raymond A. Butler	261	Brice Sickler
221	Ja. E. Hackman	262	Roscoe E. Wertman
222	Benj. Fredericks	263	Peter A. DiBetta
223	Frank E. Hadley	264	Donald M. Moore
224	S. B. Mooring	265	Lawrence E. Henson
225	Johnnie Collins	266	George F. Smith
226	Joseph C. Child	267	Edwin L. Wood
227	Millard W. Mason	268	Ray Lowry
228	Wm. H. Terry	269	Max A. Schrader
229	George L. Paul	270	Norman W. Spencer
230	George F. Rowe	271	John C. Gibart
231	Charles A. Pung	272	A. Winterhalter
232	Elmer Arneel	273	Harry D. Martin
233	John Gallo	274	Wellington W. Bain
234	J. M. Pennington	275	Robert L. Mullen
235	Mabon A. Cornwell	276	Hugh S. Shattuck

Note:

Asterisk preceding name indicates grade of First Sergeant. All others on foregoing list hold grade of Staff Sergeant.

The first 19 noncommissioned officers on the list were promoted to Technical Sergeant since January 1, 1940, so that at this writing Staff Sergeant Bert O. Craft is No. 1 on the list.

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IRPLANE MECHANICS GRADUATE FROM TECH. SCHOOL

On January 19, 1940, fifty enlisted men graduated from the Airplane Mechanics course, Department of Mechanics, Chanute Field branch of the Air Corps Technical School. They came from the stations indicated below, viz:

Fort Leavenworth, Kans.: Pvt. Owen D. Nail.
 Chanute Field: Privates Frank M. Bacchi, John E. Tweedy, George V. Kepka, Francis, James E. McConnell, Carl F. McNulty, John C. Morrow, Larry T. Ramsay, Norman E. Satchell, Louis J. Szcurek and Charles A. Ulery.

Atlanta: Private John W. Bottoms
 Patterson Field: Privates Edwin H. Brady, John Rinaldi, Lawrence L. Smith.

Barksdale Field: Privates Carl H. Carpenter

Jack Morgan, Leo L. Greggs and Archie J. McKeithen.

Kelly Field: Privates Elbert V. Coleman, Lester B. Fike, Layton W. Dunbar, James Dunn, Jr., and Henry G. Pennington.

Selfridge Field: Privates Clyde F. Glisan, Louis A. Danner and Albert S. Kimmell.

Aberdeen: Private Charles H. Graham

Scott Field: Private John D. Oliver.

March Field: Private Robert J. Hall.

Moffett Field: Privates Oliver M. Howell, Jr., William C. Kreps, George D. Landes, Jr.

Hamilton Field: Privates David Marcus, Stewart W. Nichols, William F. Myers and J. C. Osburn.

Langley Field: Privates John S. Biddison, Quinton R. Ember, Tony Mike Charles Slingland and Benjamin S. Yanchuck.

Mitchel Field: Privates Howard A. Hall, Daniel J. Hoyle and Charles P. Kinzie.

Pope Field: Private William L. Holland.

Randolph Field: Privates Sylvester J. O'Hara and Garland H. Horn.

On January 26, 1940, 38 students graduated from the Radio Repairers and Operators course, Department of Communications, Chanute Field Branch of the Air Corps Technical School, from the stations as indicated below:

Randolph Field: Privates B. V. Jares, William F. Brown, Bennine H. Cabbell, William H. Cox and Robert F. Jersey.

Kelly Field: Sergeant John W. Allison and Privates Kenneth L. Herritt, Lester H. Hodges, John H. Johnston, Herbert C. Meyer and Earl Ruth.

Fort Riley: Private Richard A. Williams.

Chanute Field: Privates Roger L. Airgood, Howard C. Barrow, Jr., George E. Becker, Ray E. Billeck, Clarence J. Cole, Carl V. Gerdes, Staley P. Hojnowski, Louis G. Kolger, Earl W. Leredith, Eugene W. Slegel, Dean A. Voight, Carlos R. Osborn, Richard I. Gangursky, Grant H. Wilson, Jr., Robert A. Trenkle, Russell E. Horn, Jr., and Stanley W. Dilley.

Langley Field: Robert A. Springman, Lamar E. Williams, Charles L. Bachtel and Russell F. Johnson, Jr. (Privates).

Moffett Field: Private Millard W. Miles.

Bolling Field: Privates Edward V. Milton and Donald H. Peabody.

Mitchel Field: Private Theodore L. Shivik.

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Effective January 1, 1940, Master Sergeant Walter Johannsen, First Observation Squadron, Fort Riley, Kansas, was appointed a Warrant Officer in the Regular Army.

He entered the service in December, 1916, and completed a total of 23 years' service before being appointed a Warrant Officer. He was appointed a Master Sergeant in July, 1920, and maintained that rank until his appointment as Warrant Officer. He served in France from December, 1917, to May, 1919, and served a tour of duty in Panama from May, 1930, to November, 1931.

Warrant Officer Johannsen also holds a commission as a second lieutenant in the Officers Reserve Corps.



"STOP TALKING TO ME, BOB....YOU'VE GOT ME DOODLING, AGAIN!"

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The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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SUGGESTIONS TO PERSONNEL ORDERED TO PHILIPPINES
 By 2nd Lieut. Keith X. Lynnton, Air Reserve

The purpose of this article is to bring to the attention of the officers contemplating a tour of foreign service in the Philippine Department such information as will be of aid to them and their families, both in transit and during the first few unsettled months in the Department. The officer must bear in mind that conditions vary from year to year, and thus no ironclad rules can be laid down, and few specific instructions are not subject to change. One must take into consideration the time of year of departure, the field of assignment, and the personal effects on hand at the time and make plans accordingly.

This is not an official document. It is merely the composite report of a group of Air Corps officers who arrived in the Department in October, 1939. It is a report of conditions as these officers found them, and is passed along to you in the hope that you will profit by their mistakes. It is intended primarily to be used by Air Corps officers who will, in all probability, be stationed at Nichols Field, Rizal.

First of all, the officer should have all orders and flying time vouchers properly authenticated and, if possible, get in flying time up to and including the month in which the transport sails. Reserve officers who plan to take the examination for Regular commission should supply themselves with all necessary text books, letters of recommendation, transcripts of college credits and all other necessary documents. All officers should make arrangements with the Finance Officer to be paid prior to sailing. The officer will find a large supply of authenticated orders invaluable. These should be made prior to departure from present station, and in sufficient quantities to last forever. Arrangements should be made with your present bank to take care of your finances in the States. A check mailed from Manila may take thirty days or more to reach its destination. Your bank should be notified of your change

of station and satisfactory arrangements made accordingly.

Now for the trip. On the boat you will have three places to store baggage in the baggage room, in the hold and in your stateroom. Trunks, household goods, furniture, and other items not needed during the voyage will be placed in the hold, and will not be accessible during the period at sea. The baggage room is open at certain hours daily, and articles such as extra clothing, typewriters and anything else which will be used during the trip, but which is not important enough to take up space in the stateroom should be kept there. In the stateroom one should plan to keep only the absolute essentials such as clothing and toilet articles, due to the fact that the staterooms are small and any extras are sure to be in the way. No luggage more than thirteen inches in height is permitted in the stateroom, since anything larger cannot be placed under the bunks. A trunk locker is ideal for the stateroom. No good leather luggage should be brought, as it will not hold up long in the humid climate in the Islands. Cross-country bags are found very useful for clothing and toilet articles, and while they are not the latest word in swanky luggage, issue barracks-bags serve very well for extra sheets, towels, old clothing and the like. It is unwise to spend much money for trunks or suitcases when almost everything which is not actually carried by the owner can be packed and shipped in Quartermaster boxes.

For the first few days out of San Francisco, warm clothing will be needed. It is advisable for the officers to have at least one complete woolen uniform, consisting of slacks, shirt, campaign hat, shoes, and Sam Browne, for troop duty. The Sam Browne is worn on board, and in the Islands only by officers on tour of duty as Officer of the Day. A sturdy cowhide belt is preferable to a more expensive dress belt. The saber is never carried. For off

duty hours, a heavy business or sport suit may be worn. Coats and ties are compulsory at meals. A topcoat will be found useful in San Francisco regardless of the time of year. When warmer climates are reached, the heavy clothing may be stored in the baggage room, and khaki and light civilian clothing substituted. No use will be found for a blouse either on the boat or in the Islands, and it should be stored in the States. Heavy clothing will be needed:

1. In San Francisco and the first few days of the voyage;

2. At the termination of tour of duty, upon arrival in the States, depending upon the time of year;

3. In the event a trip to Baguio, to China or other cooler climates is contemplated;

4. In the Islands during the cool months of December and January.

During the warmer part of the trip, clothing should be selected which will present the best appearance with the minimum of upkeep. Slack suits for both men and ladies are very satisfactory during the major part of the day. Khaki uniforms are worn while on troop duty, and at least two complete uniforms are necessary. Bring more if you have them; if not, bring only two and have others made to order after your arrival here. For the ladies, cotton crepe dresses which do not require ironing are ideal for wear on deck. A light sweater, or other wrap should be brought for wear at night. A bath robe is necessary for going to the shower room and sun deck, and swim trunks can be used for sun bathing on the top deck. Underwear and socks should be brought in sufficient quantities to last several days. Everyone will find good use for a comfortable pair of shoes for doing his dozen laps around the deck, jumping rope, playing shuffleboard, or simply taking it easy.

There will be two or three informal dances during the trip, and appropriate costumes for them should be stored in the baggage room. Small children should have play suits which can be easily washed and ironed. Laundry service on board is in general highly unsatisfactory and amazingly expensive. However, a laundry room is provided, for the ladies, with limited facilities for washing and ironing socks, underwear, play suits, slack suits, light dresses, etc.

There is a good library where many good books and current magazines provide a wealth of reading material. Much bridge is played, and if you enjoy card games you might bring two or four decks of cards. Poker chips can be used for scoring cribbage. Five Hundred and other

Vintage movies are shown nightly, and there are shuffle board and horseshoe tournaments for both men and ladies. Whether participating in athletics or not, a can of issue foot powder will be of much use after walking and salt water bathing. If the issue foot powder cannot be obtained, have your druggist mix 3% salicylic acid with a reliable unscented talcum powder and sift this into your socks before putting them on, and dust on after salt water bathing.

One should bring enough money to cover expenses while in Honolulu and Guam, as well as tips for the mess attendant, bath steward and room boy. Upon arrival, one should have at least twenty-five dollars to cover expenses until paid.

Contrary to popular belief, living expenses are not noticeably cheaper here than in the States, and in many instances they are considerably higher. Household effects may be divided into two classes; those already on hand and those which must be procured before departure or after arrival here. The first group may be sub-divided into two groups:

- A. Those which should be stored;

- B. Those which should be brought.

In general, the following items fall into Class "A": furs, curtains, pillows, overstuffed furniture, leather luggage, silk lamp shades, pictures, books, woolen uniforms, or anything which will be ruined by a very moist climate.

Class "B" articles include light woolen blanket for each bed, coat hangers, radios, electrical fixtures, hammers, pliers and other tools, eye glasses, silverware, mattresses and springs, vacuum cleaner, cooking utensils and china, old furniture, refrigerator, hardware, shower curtains, shoulder knots, shirts (civilian). Curtains are seldom used, but if you plan to have them bring curtain rods. Hardware and china, in general, are very expensive, and do not last long. Waffle irons, electrical percolators and other electrical appliances may be brought. The electrical supply is 220 volts in certain sections of Manila, but transformers may be rented to step the voltage down to 110 volts. Dress materials are expensive, and of poor quality, and the dressmakers seldom turn out entirely satisfactory work. Rugs may be brought or stored at home.

Most of the items which fall into the second class can be purchased more economically here. These include sheets, towels, shoes, civilian clothing (except shirts) white uniforms, etc. Campaign hats are slightly cheaper in the Islands, but an old hat blocked here presents sufficiently pleasing appear-

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ance for ordinary wear. Khaki cotton is the prescribed uniform for wear while on duty, and these uniforms are tailor made here very inexpensively and quickly. Shoes can be bought here at a lower price than in the States. The military dress shoe can be made for five or six dollars (gold), and they are usually very satisfactory. White suits range from seven to fifteen dollars in price, depending on the material. Socks and underwear may be purchased here at about the same price as in the States.

Reasonable priced native bamboo furniture may be purchased here. It is not recommended that overstuffed furniture be brought, since such material deteriorates rapidly in this climate. By all means, bring your automobile, but don't expect to drive it for two years and then sell it for enough to retire on. Rumor has it that American cars sell for fabulous prices. This was first proved false during the Gay Nineties, but the rumor still persists. If you have a car, bring it. If not, it would be advisable to bring a low priced small car which can be expected to give you two or three years of service.

Let me again state that this is only a general article, and each individual must exercise his own judgment, taking into consideration his own particular needs. And so, a pleasant voyage, no mal de mer, and we'll be waiting for you at the pier.

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ENLISTED MEN SENT TO WEATHER SCHOOL

Special Orders of the War Department, recently issued, directed the enlisted men named below to proceed, without loss of grade or rating, to the Air Corps Weather School at Patterson Field, Fairfield, Ohio, reporting not later than February 5, 1940, for the forecasters' course commencing on that date:

First Weather Region

Corporal Harold S. Alexander, Pvts. Myrle E. Munoz, Wilfred L. Wayland, Herman Harrison from March Field, Calif.; Private 1st Cl. Delwyn M. Barney and Private Donald E. Tice, Sacramento Air Depot, Calif.

Second Weather Region

Corporals Harold B. Terhune, Selfridge Field; George Whiteley, Jr., Patterson Field, Ohio; John C. Glasgow, Langley Field; Privates (all Specialists) Hubert R. Haines, 1st Cl.; E.J. Machala, 5th Cl.; George H. Chamberlin, 6th Cl., from Chanute Field, Ill.; Mack Glasier and Sam Skurnick, 1st Cl.; Jesse W. Miller, 3rd Cl.; from

Mitchel Field, N.Y.;

Keil B. Scott, 3rd Class, Selfridge Field, Mich.;

William J. Landsperger, 1st Class, Patterson Field, Ohio.

Third Weather Region

Corporals Billy M. Seargeant, Kelly Field, Texas; Richard L. Parker, Marshall Field, Kans.; Ralph C. Skinner, Fort Clark, Texas.

Privates 1st Class (all Specialists) Adrian J. Ragland, William S. Dawson, 3rd Class; James H. Jack, 5th Class, Randolph Field, Texas;

Walton N. Hershfield, Jr., 5th Class, Kelly Field, Texas;

Kenneth R. Walters, 3rd Class, Dryden, Texas.

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NEW HOSPITAL FOR CHANUTE FIELD

The Constructing Quartermaster Office at Chanute Field, Rantoul, Ill., recently released the following data on the new hospital now under construction at that field. Work on this new structure is rapidly forging ahead, and reports indicate that the hospital may be ready for use by May 31, 1940.

The new unit, situated in the new construction area of Chanute Field, is a three-story hospital, approximately 183 by 150 feet, containing 110 beds; eight wards, private and semi-private rooms; kitchen for detachment, X-Ray Sections; Dental Units, Eye, Ear and Throat Units; Physiotherapy Department and operating rooms. The basement and first and second stories of the structure contain about 11,000 square feet of floor space, while the third floor has about 8,000 square feet of space. The third floor, front section of the building, will be air-conditioned.

The entire structure is of reinforced concrete, with load-bearing exterior walls.

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SCHOOL OF MECHANICS AT CLARK FIELD

The second class to enter the School of Mechanics at Clark Field, Fort Stotsenburg, P.I., and comprising 34 members, has successfully passed through the first phase of training.

This School is organized to instruct personnel in the operation and maintenance of aircraft engines, instruments, and accessories. The course is of approximately 12 weeks' duration and is under the supervision of Corporal J.P. Lisack.

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Master Sergeant James D. Mehegan, 22nd Observation Squadron, Brooks Field, Texas, was appointed a warrant officer as of Feb. 1, 1940.

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APPRECIATION OF THE AIR CORPS TECHNICAL SCHOOL

"It is a well established fact," says the News Letter Correspondent of the Air Corps Technical School, Chanute Field, Rantoul, Ill., "that efforts are constantly made by the War Department and by each officer in his individual capacity to better the living conditions, raise the morale and be concerned with the solutions of problems that so vitally result in a harmonious garrison. This station has been an excellent vantage point to observe these efforts and, as outlined in previous contributions in the Air Corps News Letter, the problems were many - so many that they at times seemed unsurmountable. In each case, these problems of housing and messing facilities, etc., proved to be a chance for the men stationed at Chanute Field to show that the impossible could be done."

Two letters received at Chanute Field are quoted by the Correspondent, one from the mother of an enlisted member of the 10th Air Base Squadron, and another from a former member of the Tenth and he wants to come back. These two letters are as follows:

"Box.....
.....N.Y.
January 9, 1940.

Commanding Officer,
10th Air Base Squadron,
Chanute Field, Illinois.
Dear Sir:

The training at Chanute, sir, opens the door of opportunity to the clear-eyed, straight-thinking Youth of our country. Dad, brother and mother are proud that he was counted worthy of becoming a student. The Service, sir, is doing much for (name deleted), not only educationally but in other respects. A mother can see far beneath the surface.

May _____ repay in service and right living the debt he owes his country! Realizing that your days are filled with real and vital problems, I expect no reply. Just had to let you know of our respect and gratitude.

Best wishes to you, si.

(Name deleted)
(Soldier's mother) "

"January 27, 1940.

Commanding Officer,
10th Air Base Squadron,
Chanute Field, Illinois.

Dear Sir:

After graduating from the Sheet Metal Workers course at the Air Corps Technical School, Chanute Field Branch, during 1939, I was transferred to this Field. I would have liked to re-

main at Chanute Field under your command but our whole class was transferred. I am very anxious to return to your squadron, if you have a vacancy; and will approve of my transfer. I will request a transfer immediately after your answer that you have room for me.

I don't know whether you remember me or not but you once commended me for making deposits with the Finance Officer. I took heed of what you told me and I still deposit money every month.

Chanute Field is just like home to me. I miss it and all the friends that I left behind. I enlisted at Chanute Field and lived there for six months. I cannot seem to get adjusted here so if there is any vacancy in your squadron and you approve of my transfer, I will see the First Sergeant immediately.

Hoping that I am able to return to my old outfit, I am,

Yours sincerely,

(Name and Organization deleted)
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GENERAL EMMONS RETURNS FROM WEST COAST

Major General Delos C. Emmons, Commanding General of the GHQ Air Force, returned to Langley Field, Va., on January 22nd from a tour of inspection of West Coast air bases. While on the Pacific Coast he witnessed joint Army-Navy Maneuvers at Monterey and Sacramento, Calif.

The flight to Langley Field was made in a Douglas C-42 Transport plane. Members of the crew included Captain Wentworth Goss, aide to General Emmons; Major Harold H. McGinnis, of the Inspector General's Department, an air force inspector; Lieut. Colonel Cedric W. Lewis, air force signal officer; Tech. Sgt. Arthur Andrews, crew chief, and Private 1st Class Robert O. Fullman, radio operator.

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A two-engine, five-passenger Transport airplane was flown to Wright Field, Dayton, Ohio, recently by Messrs. D.L. Wallace and Thomas Salter, representatives of the Cessna Aircraft Company, Wichita, Kansas, for the consideration of the Materiel Division officers as a type adaptable to possible military use.

Circular proposals were issued on January 23rd by the Materiel Division, inviting the offer of bids on a single-engine, short-range liaison observation airplanes. The opening date, as stated in the circular proposal, is set for February 23, 1940.

WRIGHT FIELD AERIAL PHOTOGRAPHIC LABORATORY
By the Materiel Division Correspondent

Since World War days, when an officer discovered that by taking a camera on a flight and obtaining photographs from the air he could supply information which, at his headquarters, was considered as extremely valuable, aerial photography has proved one of the most interesting phases of military aviation. In the past twenty years, remarkable development of aerial photographic equipment has taken place.

The experimental center for the development of this equipment for the Army Air Corps has been the Aerial Photographic Laboratory at the Materiel Division, Wright Field. This laboratory, formerly a part of the Equipment Branch, has under the expansion program been formed into a separate laboratory, its chief reporting directly to the Chief of Experimental Engineering.

Modern aerial photography has almost as many facets as a well-cut jewel. Present-day camera development provides for making available the very latest types of cameras and accessory equipment for use in obtaining vertical and oblique views of terrain, of accomplishing quick work photography, and all branches of aerial mapping, including spotting and reconnaissance photography. Night photography has come to play an important part in military aviation.

The group devoted to this development is responsible for pyrotechnics, such as photoflash equipment necessary to obtain satisfactory night photographs at altitudes between 4,000 and 5,000 feet. Special synchronized mechanisms which time the operations of a camera with the explosion of the flash bombs are part of this work.

Color aerial photography has recently been acknowledged a valuable asset. Experimental work has dealt with suitable color printing processes (either by photographic or lithographic means) necessary for furnishing quantities of colored prints from original transparencies or color separation negatives.

Among other military uses, this type of photography has proved a material aid in detection of camouflage.

For photographic operation in the field, a special group of engineers has been charged with the development of suitable processing, printing, enlarging, washing, and drying equipment for use in portable laboratories. This group has also been responsible for the production of suitable light weight nontransportable photographic laboratory units with necessary processing equipment installed.

Portable equipment and sensitized

material for use when making quick work photographic prints while in flight are handled by another group of engineers who are also charged with the development of long focal length cameras for taking long-distance high-altitude pictures. Optics, lenses, prisms, sensitized materials for all phases of photographic work are studied.

Assigned to the Materiel Division by the Chief of Engineers for research and development of equipment and methods necessary for the production of tactical military maps from aerial photographs produced by the Air Corps is a Corps of Engineers Mapping Unit. This unit closely cooperates with the Aerial Photographic Laboratory in the development of camera equipment for the production of photographs suitable for military maps and map substitutes.

The Aerial Photographic Laboratory is under the direction of two Army Air Corps photographic officers acting in the capacity of chief and assistant chief. At present these officers are Major G.W. Goddard and Lieut. D.L. Hardy. The main objective is to conduct studies and experiments leading to the design and production of experimental equipment and materials to meet the immediate and future needs of the photographic activities of the Air Corps. The laboratory invites suggestions, information or criticism which will aid in obtaining satisfactory equipment or materials from other photographic activities in the service.

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CLOTHING DESIGNED FOR ALASKA

Three complete winter flying outfits for use in Alaska, consisting of a parka type jacket, combination winter shoes and trouser legs, with heavy mitten type gloves, and a hood arrangement for the parka have been developed by the Materiel Division, Wright Field, Dayton, Ohio. Experimental tests made in the Cold Chamber over various periods of time, with the wearer subjected to various degrees of temperature down to -40 deg. C., showed this equipment to be satisfactory. It was then shipped to Hamilton Field for test in Alaska in accordance with arrangements made by Major D.V. Gaffney, of Hamilton Field.

If favorable information is received regarding results of these tests a sufficient quantity of complete outfits will be procured for use by the Air Corps detachment to be stationed in Alaska this coming year.

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MAXWELL FIELD OFFICERS WITNESS EMPLOYMENT OF INFANTRY AND ARTILLERY WEAPONS

Live rifle, automatic rifle and machine gun ammunition, trench mortar, anti-tank and artillery shells were expended on February 8th at Fort Benning, Ga., when Infantry School units demonstrated "Doughboy" and Field Artillery weapons to 136 Maxwell Field officers. Of these visitors, 101 are students at the Air Corps Tactical School, and the others are assigned to the newly constituted 23rd Composite Group (Demonstration), stationed at Maxwell Field.

The 29th Infantry and the 83rd Field Artillery gave the demonstration which, in general, consisted of an Infantry battalion, supported by Field Artillery, in attack and defense. A platoon of tanks led the assault troops in the attack phase. Over 1100 Infantrymen and Artillerymen took part. All armament with which the Doughboys and Artillerymen are equipped was employed. Incidentally, both units functioned at full war strength. A system of amplifiers was installed which enabled all to hear the orders and instructions issued by the Infantry and Artillery commanders.

Colonel Courtney H. Hodges, Commandant of the Infantry School, conferred with Air Corps Tactical School officials at Maxwell Field regarding the details of the demonstration on January 25th. Colonel Millard F. Harmon, Jr., Assistant Commandant of the Air Corps Tactical School, supervised the class while it was at Fort Benning.

The movement to Fort Benning was made by air, and airplanes commenced taking off about 6:30 a.m. Captain Norris B. Harbold, Operations Officer, 91st School Squadron, made the flying arrangements which required almost all of Maxwell Field's aircraft.

Lunch was served on the "battlefield" by the Fort Benning Officers' Club. The party returned to Maxwell Field about 5:00 p.m.

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The Signal Corps Training Film Unit operating at the Air Corps Materiel Division, Wright Field, Dayton, Ohio, announces that a film, entitled "Theory of Aerial Gunnery," will soon be ready for release. In process of preparation is a motion picture, entitled "Modern Weather Theory," and the scenario has been written for a training film, entitled "Aircraft Engines." Also, there have been received picture plans covering two new subjects - "Aerial Photography" and "Aerodynamics."

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MAJOR GEORGE ASSIGNED TO NEW GROUP

Major Harold H. George, Air Corps, who has been in command of the 94th Pursuit Squadron, 1st Pursuit Group, since July 28, 1938, assumed command on February 1, 1940, of the newly organized 31st Pursuit Group, Selfridge Field, Mich.

Captain John N. Stone took command of the 94th Pursuit Squadron (Interceptor), while other new personnel of this Squadron are Lieut. Paul Blanchard, Operations; Lieut. Ralph S. Garman, engineering; Lieut. Jerry W. Phelps, flight commander; Lieut. Buddy Marks, deputy flight commander; Lieut. F.C. Grambo, assistant adjutant; Lieut. J.O. Beckwith, Mess Officer; Lieut. F.R. Rudell, assistant operations; Lieut. W.C. Armstrong, assistant engineering; Lieut. J.R. Bruce, Communications, and Lieut. W.J. Bowen, technical supply. The 31st Squadron was also reinforced by Lieut. J.F. Hunker, the adjutant, who just came up from Langley Field, Va.

Captain Stone has been stationed at Selfridge Field for three years and was formerly Group Adjutant. Lieut. Blanchard lately returned to Selfridge Field after several years of duty as an instructor at the Air Corps Training Center.

The 94th Squadron will share a hangar with the 17th Pursuit Squadron (Int.) until the 31st Pursuit Group leaves Selfridge Field.

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A HUNDRED MILES ON A GALLON OF GAS

Service tests of motor scooters have been completed at Langley, Duncan and Randolph Fields. The results showed that motor scooters are suitable for stock chasers and messengers at fields where the source of supply is over a half mile from operations.

Ordinarily, when time is important, a tractor or truck is used. Scooters will reduce the cost of operations, as in testing they averaged 100 miles to a gallon of gas, with no parking problem involved. They were found to be cheaper than bicycles or walking.

The model approved is a three-wheel type with a carrying capacity of 10 cubic feet or up to 200 pounds. The 1½ h.p. single-cylinder engine provides a normal operating speed of 20 to 25 miles per hour. Standard equipment includes a clutch, foot starter, conventional motorcycle steering and throttle, electric lights, horn, and pneumatic tires.

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THE FLIGHT INSTRUCTORS AT RYAN SCHOOL

"It is believed that of flight instructors sent to Randolph Field by the nine commercial primary schools for Air Corps approval, a higher percentage of those attending from the Ryan School of Aeronautics were accepted than from any of the other schools."

The above statement is made by the News Letter Correspondent of the Ryan School of Aeronautics, Lindbergh Field, San Diego, Calif. In an article in the January 15th issue of the News Letter, brief data was given on the caliber of the flying instructors handling the primary training of the Flying Cadets attending the Grand Central Flying School at Glendale, Calif. An editorial note at the conclusion of this article requested similar information from the eight other civilian elementary flying schools, and the only response to this so far is from the Ryan School, whose public relations representative goes on to say further -

"That this is an excellent endorsement of the caliber of Ryan flight training is evidenced by the fact that of Ryan's fourteen approved military instructors, ten are themselves graduates of commercial flight training courses at the San Diego school.

When the expanded Air Corps training program got under way, officials of the Ryan School called back from positions in commercial aviation many of the best graduates of recent years in their commercial flying school. As a result, the Ryan flight staff is an unusually close-knit organization, functioning under the able direction of Paul Wilcox, Director of Flying.

In addition to the ten Ryan-trained instructors, two others of the total of fourteen received their training in San Diego.

The Ryan-trained men on the flight staff are Verner Murdock, William Sloan, Robert Kerlinger, William Evans, Ben F. Hazelton, William Howe, Dick Huffman, Joseph Duncan, Ben Johnson and Rosmond Blauvelt. The others on the staff are Clarence Prescott, Lee Garner and Peter Larson. Average logged time of the group is 2000 hours.

Wilcox, Kerlinger, Murdock and Sloan were already employed on the commercial instruction staff at the Ryan School when the new pilot-training program was instituted last July first. Howe, who has been instructing military pilots for the Honduras Air Force, and flying commercially in Central America for T.A.C.A., returned to the San Diego school. Hazelton was operating his own flying service at Toledo, Ohio, as was Duncan at Sacramento.

Blauvelt was instructing students in

New York, while Johnson was similarly occupied at Los Angeles; Huffman in Cincinnati, and Evans in San Diego. Prescott and Garner jointly operated, and Prescott owned, the Linda Vista Airport near San Diego. Larson had long been active in commercial flying at Detroit before joining the Ryan School instructional staff."

The seven other civilian elementary flying schools where Air Corps Flying Cadets are undergoing primary training, under the Air Corps Expansion Program, are again invited to submit information on their staff of flight instructors along lines similar to that submitted by the Grand Central and Ryan flying schools.

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NOTES ON GRAND CENTRAL FLYING SCHOOL

A new auxiliary field for the Air Corps Training Detachment at Glendale, Calif., has been put into use by the Grand Central Flying School. The field, located near Newhall, Calif., is 4,000 by 2,700 feet in size, and is located in an area noted for its freedom from fog and haze. It lies a few miles northwest of Grand Central Air Terminal where the detachment is based.

A new engine test stand building containing ten rooms, each housing a motor, has been completed at the Curtiss-Wright Technical Institute for use of enlisted men under instruction as mechanics at the Air Corps Training Detachment, Glendale, Calif. Advanced students daily will use the new facilities to locate "bugs" put into the engines by the instructors the previous night.

The first class of mechanics to complete training at the Air Corps Training Detachment, Glendale, Calif., finished their six months' course at Curtiss-Wright Technical Institute on February 8th and scattered to their various home fields.

A total of 39 men comprised the first group of graduates, many of whom were awarded the civilian school's coveted "Honor Graduate" diploma by Major C.C. Moseley, former Air Corps pilot and owner of the school.

Similar classes will graduate each two weeks hereafter, with four new groups of 34 men each scheduled to replace them, beginning February 19th.

With only eight men of an original class of 38 washed out in primary training, 30 graduates of Class 40-D completed their work at the Grand Central Flying School on February 9th and left for

(Continued on Page 9)

V-8363, A.C.

ACTIVITIES AT SHERMAN FIELD, KANSAS

According to the News Letter Correspondent of Sherman Field, Fort Leavenworth, Kansas, there appears to exist throughout the Air Corps an erroneous general belief that only a detachment is stationed at that field. As a matter of fact, there is permanently stationed at Sherman Field a full squadron (3rd Staff Squadron - 108 enlisted men) plus a Weather Detachment and a Communications Detachment.

Through the energetic efforts of the former Commanding Officer, Major Joseph A. Wilson, Air Corps, Sherman Field has been made into one of the finest landing fields in the Air Corps. The field is so well drained artificially that it is never closed on account of wet weather. There are two runways, each 4,000 feet long, and one runway 3,000 feet long, which will accommodate any aircraft now in use. A considerable amount of transient aircraft business is carried on at Sherman Field, due to its central location geographically. This station is especially good for the one stop transcontinental traffic. In its heated double hangar there are stored the transient aircraft which remain overnight.

Sherman Field operates on a 24-hour schedule and can give maintenance service and weather data at any hour throughout the day and night. Two officers are assigned thereat, but one of them is at present on detached service attending the Link Trainer School.

The following article regarding Sherman Field appeared in a recent issue of the Kansas City STAR:

"The thrill of working on an airplane and riding in it has begun to wear off for 65 recruits who enlisted in the third staff squadron at Sherman field here (Fort Leavenworth) during the last three months. But they are showing an unusual interest in becoming expert mechanics, radio operators, photographers and other Air Corps duties.

Lieut. Ray Clifton, commanding officer of the unit, was faced with the problem of preparing these recruits for the air corps technical schools, where they will receive the best available training in aeronautical subjects. This requires intensive training which, to a young man just out of high school, may have an influence on his morale, so plenty of recreation has been placed on the program.

Of the 65 recruits, most of them are natives of Missouri and Kansas, with several residents of the Greater Kansas City area. They are all high school graduates and many have several years' college with a few having degrees.

Clifton has utilized the former experi-

ence of Orien Benton, Springfield, Mo., who formerly was a high school teacher at Thayer, Mo.

Benton, who holds two college degrees and is a Diesel engineer, is giving instruction to the recruits in mathematics so they may be able to pass their examinations into the air corps technical schools. The recruits also work under the supervision of men who are specialized in the various departments, so as to make them more familiar with the subjects they will take up at the technical school.

The air corps technical schools are rated as the best in their line in the world and, as instructors, have some of the outstanding men in the aeronautical world. There the recruit is taken and given an intensive course in any of the following subjects, airplane mechanics, radio operator and maintenance work, welding, photography, sheet metal work, blacksmith, propeller, instruments, painting and carpentry.

When a man is graduated from these schools he is not only valuable to the air corps but at the expiration of the 3-year enlistment, if he does not wish to follow the army as a career, he has a trade which will assist him in finding employment on the outside.

The air corps is virtually the only branch of the service where an enlisted man may rise from the ranks and become an officer. This is done by the enlisted man passing the entrance examinations for Kelly Field, the West Point of the Air. There he will learn to fly Uncle Sam's airplanes.

The requirements for this training center are high, as a man must have two years of college or pass an equivalent examination. He also must be in perfect health, as the physical examination is stricter for this branch of the service than any other. While this sounds like a great handicap, there have been many of the present officers who were formerly enlisted men.

The first request of nearly every recruit is to go for a ride in an airplane, but he is not allowed to do this for two or three months, as he does not know how to act in a plane. This is done for the protection of the recruit as well as the officer flying the plane.

A course of instruction is given the newly enlisted men on how to act in the plane, how to wear their parachute and take care of it and how to jump from a plane in case of emergency. Every man, enlisted or officer, must wear a parachute whenever he leaves the ground in an Army plane.

The care of parachute when in possession of an enlisted man is an important item, as the mechanism of these life savers must not be tampered with or

...mistreated and the 'chute must not be allowed to become damp.

The popularity of the air corps, especially at Sherman Field, is emphasized by the growing list of youths desiring to enter this organization. The present allowed strength of the Third Staff squadron is 109 enlisted men, and Lieutenant Clifton does not expect any vacancies for some time.

There are also eight men of a meteorological squadron assigned at the field who have available information on the weather over the United States twenty-four hours a day. A radio hook-up with army stations over the nation is also kept open here twenty-four hours a day, as seven men of a communications squadron are assigned to duty here for that purpose....."

---cOo---

NAPOLEON BONAPARTE ENLISTS IN AIR CORPS

Napoleon Bonaparte, son of Mr. and Mrs. MacRino Bonaparte, of 1511 McDonald Avenue, Brooklyn, New York, has enlisted in the Army Air Corps at Mitchell Field, N.Y. Upon being interviewed, Bonaparte stated that his enlistment was due to his desire to become an airplane mechanic rather than become a great leader. He asked if he was interested in the career of the great Napoleon Bonaparte, he stated that he was more interested in the destinies of the Brooklyn Dodgers.

Private Bonaparte further stated that his name had caused considerable embarrassment on numerous occasions. One incident in particular was when he was driving a car with two friends whose names happened to be James Cagney (not the movie star) and John Adams (no relation to the ex-president). They were stopped by a policeman for passing a red light.

"Pull over to the curb," commanded the cop. "What's your name?" the cop bellowed.

"John Adams," replied one of his companions.

"Oh! wise guy, eh? What's your name?" he asked of his other companion.

"Jimmy Cagney," he replied.

Then the cop did burn up and, pointing to Bonaparte, he said: "And I suppose you are Mickey Rooney?"

"No - Napoleon Bonaparte."

That was the last straw, so the boys were lodged in the "Hoosgow" until identification could be established.

Local and New York newspapers gave the story of his enlistment front page billing. The Mitchell Field News Letter Correspondent says that "it is the intention of the Public Relations Officer

to follow Private Bonaparte through his course of recruit training by taking a series of photographs depicting the life of an Air Corps recruit."

---cOo---

PAINTED WARNING ON PLANE AVERTS DISASTER

Two airplanes, a B-18A and an A-17A, were on the line at Bolling Field, D.C., warming up at about one o'clock on January 29th, and the only indication that this was to be anything other than a routine flight was supplied by the bustle of the mechanics at work marking in lampblack on the sides of the ships in large letters "Richmond Closed." There were, however, the preparations being made to dispatch airplanes to Richmond, Va., to warn Lieut. John T. Shields, who was ferrying a photographic plane from Brooks Field, Texas, to Roosevelt Field, N.Y., not to land at Richmond, as he intended when he cleared from Charlotte, N.C.

The Airways Division of the Civil Aeronautics Authority notified the Operations Office at Bolling Field that Lieut. Shields had cleared for Richmond, which was at that time covered with snow in heavy drifts, and that the mercury stood at 12 above zero. The conditions indicated that it would be inviting disaster to attempt a landing there, and the Civil Aeronautics Authority also reported that they had no way of warning the pilot, since he was not equipped with radio.

The answer was the immediate ordering out of the ships, on the sides of which were hastily scrawled the legends designed to warn Lieut. Shields not to land at Richmond. Lieut. G.H. Austin with Lieut. D.E. Wilburn as co-pilot, and Captain R.L. Easton took off in two airplanes with barely enough time left to make the forty-minute flight to Richmond. Had they arrived a little later than they did, Lieut. Shields might have made a disastrous landing, entirely unaware of his danger.

The Bomber and the Attack planes intercepted Lieut. Shields before he arrived in Richmond, thus warning him of conditions there, after which he decided to follow them into Bolling Field.

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Grand Central Flying School (From P. 7)

Randolph Field.

On the preceding Thursday afternoon, the Cadets staged a graduation teadance from five to eight at Los Angeles' fashionable "Town House," with co-eds from local institutions of learning.

These Flying Cadet Graduation Dances are accepted as recognized society functions by editors of society columns.

GENERAL OFFICERS VISIT MAXWELL FIELD

General George C. Marshall, Chief of Staff, and Major General Henry H. Arnold, Chief of the Air Corps, made an official visit to Maxwell Field, Ala., on the morning of January 22nd for the purpose of inspecting the recently constituted 23rd Composite Group (Demonstration), the field's building construction program now in progress, and other activities at the Air Corps Tactical School. The party, which included Colonel Orlando Ward, General Staff, Corps, General Marshall's aide, arrived about 11:15 a.m. from Barksdale Field, Shreveport, La., in a Transport plane piloted by Captain Eugene H. Beebe. Captain John G. Fowler was co-pilot; Sergeant H. Puzenski, crew chief, and Corporal R. Meade, radio operator.

Full military honors were accorded the visiting Generals. Major Augustine F. Shea and Master Sergeant Luther Warren acted as aide and orderly, respectively, for General Marshall, and Captain Earle E. Partridge and Master Sergeant Cecil F. Renne served in similar capacities for General Arnold.

The visitors were met by Colonel Walter R. Weaver, Commandant of the Air Corps Tactical School, and his staff. A thorough inspection was made of the newly organized 23rd Composite Group, hangar line and recently constructed barracks.

The party left Maxwell Field at about 12:30 p.m. for the Infantry School at Fort Benning, Ga.

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PHOTO FLIGHT CONSTITUTED AT MAXWELL

Flight C, 1st Photographic Squadron, was constituted at the Air Corps Tactical School, Maxwell Field, Ala., on January 26th, pursuant to radio instructions from The Adjutant General, Washington. The headquarters of the organization is at Bolling Field, D.C. Unofficial information received locally is to the effect that the Squadron is to consist of six flights.

First Lieut. James H.C. Houston, Air Corps, has the distinction of being the first Commanding Officer of the flight stationed at Maxwell Field. He is a graduate of the Primary and Advanced Flying Schools and holds the military aeronautical rating of pilot. He is also a graduate of the Photographic course, Air Corps Technical School, Chanute Field, Rantoul, Ill.

At present, 22 enlisted men are members of the Flight, namely, Master Sergeant Harvill B. Srote, Technical Sergeant Barron C. Powers, Staff Sergeant Ralph S. Davis, Sergeants Raymond A.

Staff and Albert R. Weaver, Air Mechanics, 1st Class; Corporal Herschel Rigging; Privates 1st Class James I. Chadderton and Charles Mull; Private 1st Class, A.M. 2d Class James L. Pearce; Private, A.M. 2nd Class, Malcomb R. Mathis; Privates William A. Kunde, Ralph H. Ginn, James T. Hastings, Richard E. Perry, William E. Walker, Ben P. Truitt, Kenneth V. Ives, Arthur W. Cassada, William D. Aaron, John G. Feltes, Bert W. Reiser and Joseph B. Sittin.

Lieut. Houston said that the general functions of the flight would be to operate the photographic laboratory and to perform such photographic mission as are directed.

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COLONEL NETHERWOOD LEAVES MAXWELL FIELD

Colonel Douglas B. Netherwood, Air Corps, has been relieved from duty as President of the Air Corps Board at Maxwell Field, Ala., and assigned to duty at Mitchel Field, N.Y., being scheduled to depart for his new station about February 10th.

Colonel Netherwood came to Maxwell Field on August 26, 1936, upon his graduation from the Army War College, Washington, D.C., for duty as Assistant Director of the Air Corps Board. He assumed the directorship of this important activity upon the departure of Colonel Jacob R. Rudolph for Lowry Field, Denver, Colo., in June, 1938. Colonel Netherwood's services on this Board, says the Maxwell Field Correspondent, "have been of inestimable value, and the studies initiated by him are invaluable to the defense plans of our country."

Colonel Netherwood has the distinction of being the only officer remaining on the active list in the U.S. Army who was in the original group of fourteen assigned to the Aviation Section, Signal Corps, on August 20, 1914. This was the brood of fledglings which started the present U.S. Army Air Corps.

Colonel Netherwood has been piloting military aircraft continuously for more than 25 years. He holds the military aeronautical ratings of command pilot and combat observer.

Colonel Netherwood was born in Birmingham, England, on February 4, 1885. Following graduation in 1908 from Texas Agricultural and Mining College with the degree of Bachelor of Science in Mechanical Engineering, he enlisted in the Coast Artillery Corps and served in that arm from July 31, 1908, until Aug. 6, 1911. He was appointed a second lieutenant in the Coast Artillery Corps on August 7, 1911; promoted to first lieutenant, July 1, 1916; Captain, May

15, 1917; Major, July 1, 1920; Lieutenant Colonel, August 1, 1935, and Colonel, August 26, 1936.

His varied military career has included two tours of duty in the Philippines and in the Office of the Chief of the Air Corps, service at various garrisons in the States, a detail with the Organized Reserves, and attendance at the Army War College, Army Industrial College, Air Corps Tactical School and Harvard School of Business Administration.

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FLYING UNDER ICING CONDITIONS

The recent cold weather at Randolph Field, Texas, with an overcast sky, has given the students undergoing basic training at the Primary Flying School an excellent demonstration of the dangers of flying when icing conditions exist. With temperatures between 26 and 30 degrees F. and a ceiling of 2400 feet, many planes accumulated ice at altitudes as low as 600 feet in the thin haze that existed beneath the overcast. On several planes propellers accumulated enough ice to prevent the functioning of the pitch changing mechanism and to cause strong vibration in the plane. On the propeller of one plane the vibration from uneven ice formation on the blades and ice on the antenna wires caused the antenna mast to begin suddenly to vibrate with such intensity that it snapped before the pilot could change the speed of the engine or airplane to stop the vibration. On another plane, ice on the under surface of the wing prevented the lowering of the flaps.

Perhaps the most dangerous effect of icing occurred in the increased stalling speed of several ships and in the change in their stalling characteristics. The BT-9, which normally glides at 80 miles per hour, stalls at that speed with about one-fourth inch of ice on the leading edge of the wing. The stalling attitude of the ship is very near that of the attitude of the ship in a normal glide and far from the "3-point" attitude. To make the situation even more dangerous was the change in "feel" just before the stall. The controls were not "loose" and the ship did not feel as though it were "settling" just before the stall.

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At a meeting of the Randolph Field Reserve Officers Association on January 25th, the following were elected to head the local chapter during 1940: President, 1st Lt. J. M. Treweek; Vice President, 1st Lt. V. M. Byrne; Secretary, 1st Lt. Hugh O. Daniel; Treasurer, 1st Lt. Don Meade.

"AIRPORT TRAFFIC"

(The following treatise is a Flying Cadet's interpretation of the air-drome traffic control system at Randolph Field, written at the "request" of his instructor after said student pilot "tied things up" pretty badly one afternoon).

"Traffic is a word of flexible use and meaning; in the mind of an aviator its many connotations can well be forgotten. It denotes for him the existence of a pattern of specific geometric proportions; the visualization, within his mind, of a tri-dimensional alignment of space, velocity and accelerations.

The rectification of the pilot's space position with the existence of imaginary, or rather, visualized, lines of translation is of first importance, chronologically and because of its paramount necessity.

Airport traffic, as you may guess, is a system for the direction and control of the aircraft arriving and departing from a field. Careful planning and the use of the fruitful knowledge of experience has caused responsible personnel to set forth, in writing and in diagrammatical form, certain rules. These form the system for flight into and out of an aerodrome.

No well ordered system, the work of sincere minds, established for safety, no system so designed, can be callously ignored or violated with impunity. The rules laid down for flying in traffic are of no value if cooperative effort is not put forth by groups of pilots engaged in flying with the same pattern at the same time.

When obeying and construing the rules of traffic, due regard should be given to all dangers of navigation and collision, or to any specific circumstances which might render a departure from the rules necessary to avoid immediate danger.

The quotations of the learned and scholarly Professor L.Q. Stoopnagle inspire me to state that: Airport traffic is what, if you don't get your neck broken barging into, you have to write one of these."

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CLASS 40-B ON THE HOMESTRETCH

Class 40-B is entering its last two weeks of training at the Primary Flying School, Randolph Field, Texas, before going to Kelly Field. Of the 238 students who started, 20 were eliminated for flying. There were 8 other losses - four being physically disqualified, one died, one resigned, and two were held over to Class 40-C. Four holdovers from 40-A joined, leaving a total of 214.

V-8063, A.C.

RADIO BROADCAST OF AIR CORPS SONG

The U. S. Navy Band will play the official Air Corps Song, "The Army Air Corps," during its National Broadcast from Washington between 2:30 and 3:00 p.m., Eastern Standard Time, on Monday, February 19, 1940.

The radio stations which will broadcast this program are listed below, as follows:

WJZ - New York	KTHS - Hot Spgs., Ark.
WBZ - Boston	WDSU - N. Orleans, La.
WBZA - Springfield, Mass.	WJBO - Baton Rouge, La.
WEAN - Providence, R.I.	KVOO - Tulsa, Okla.
WICC - Bridgeport, Conn.	KARK - Little Rock, Ark.
WFL - Philadelphia, Pa.	WGAL - Lancaster, Pa.
WMAL - Washington	WKBO - Harrisburg, Pa.
WSYR - Syracuse, N.Y.	WTAR - Norfolk, Va.
WEER - Buffalo, N.Y.	WBLK - Clarksburg, W. Va.
KDKA - Pittsburgh, Pa.	WGKV - Charleston, W. Va.
WHE - Cleveland, Ohio	WOOL - Columbus, Ohio
WKYZ - Detroit, Mich.	WHIZ - Zanesville, O.
WOWO - Fort Wayne, Ind.	WING - Dayton, Ohio
WENR - Chicago, Ill.	WOOD - Gr. Rapids, Mich.
KVK - St. Louis, Mo.	WBOW - Terre Haute, Ind.
WMT - Cedar Rapids, Iowa.	WGBD - Evansville, Ind.
WTCB - Minneapolis, Minn.	WIBA - Madison, Wis.
KSO - Des Moines, Iowa	WFDF - Flint, Mich.
WFEN - Kansas City, Kans.	WBCM - Bay City, Mich.
WFTD - Richmond, Va.	KMA - Shenandoah, Iowa
WNBC - Hartford, Conn.	KSCJ - Sioux City, Iowa
WABY - Albany, N.Y.	KOWH - Omaha, Nebr.
WMFF - Plattsburgh, NY	WFAI - Cincinnati, O.
WJTN - Jamestown, N.Y.	WLBZ - Bangor, Me.
WLEU - Erie, Pa.	WRDO - Augusta, Me.
WJIM - Lansing, Mich.	WFEA - Manchester, N.H.
WIBM - Jackson, Mich.	WERE - Wilkes-Barre, Pa.
WELL - Battle Creek, Mich.	WSAN - Allentown, Pa.
WEBC - Duluth, Minn.	WORK - York, Pa.
KYFM - Mankato, Minn.	KGNC - Amarillo, Texas
KROC - Rochester, N.Y.	WOAI - San Antonio, Tex.
KFAM - St. Cloud, Minn.	KTOK - Oklahoma City, Okla.
KFOO - Sioux Falls, S.D.	KCKO - Ft. Worth, Tex.
KAMF - Wichita, Kans.	KXYZ - Houston, Texas
WPTF - Raleigh, N.C.	KFDM - Beaumont, Texas
WFOC - Charlotte, N.C.	WDAY - Fargo, N.D.
WFBC - Greenville, S.C.	KFYR - Bismarck, N.D.
WIFE - Asheville, N.C.	KGO - San Francisco, Calif.
WIS - Columbia, S.C.	KECA - Los Angeles, Calif.
WOLF - Florence, S.C.	KTMF - Santa Barbara, Calif.
WTMA - Charleston, S.C.	KFSD - San Diego, Calif.
WJAX - Jacksonville, Fla.	KEX - Portland, Ore.
WFLA - Tampa, Fla.	KFBK - Sacramento, Calif.
WLAK - Lakeland, Fla.	KWG - Stockton, Calif.
WIOD - Miami, Fla.	KERN - Bakersfield, Calif.
WAVE - Louisville, Ky.	KJR - Seattle, Wash.
WSM - Nashville, Tenn.	KGA - Spokane, Wash.
WMPS - Memphis, Tenn.	
WSGN - Birmingham, Ala.	
WAGA - Atlanta, Ga.	

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UNUSUAL WEATHER AT RANDOLPH FIELD

The weather at Randolph Field, Texas, during the last part of January produced a two-day snowstorm, a low temperature of 14 degrees F., and broke a 54-year old record for successive

below-freezing nights. The fourteen-day "Norther" arrived on January 15th and kept the temperature below freezing until the 29th. The snowstorm arrived on the 22nd and produced two inches of snow, which lasted two days. Great were the snow fights and numerous were the snow men at Randolph Field.

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SUCCESSFUL GUNNERY SEASON FOR 17TH SQUADRON

As members of the 17th Pursuit Squadron at Selfridge Field, Mich., gather and reminisce over their long line of achievements and victories, the reason for their constantly high "esprit de corps" becomes evident.

At the end of this year's gunnery season at Camp Skeel, Oscoda, Mich., when the scores had been compiled, it was found that one of the highest average scores in the history of the Squadron had been fired. Taking cognizance of the fact that twelve of the new pilots were firing for the first time, the Squadron average score of 1180 is indicative of the excellent training given by Flight Commanders. "One hundred percent Expert" was the goal set up and achieved during the 1939 gunnery season.

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NEW UTILITIES AT WRIGHT FIELD

Public opening of bids was held at the Materiel Division, Wright Field, Dayton, O., on January 25th for a test chamber power building unit and tunnel duct structure for the wind tunnel and three traveling cranes, also for the wind tunnel. The low bid for the test chamber power building unit and tunnel duct structure was presented by the National Concrete Fireproofing Company, Cleveland, Ohio, in the amount of \$614,000. The second low bid was from H.M. Boyajohn, Columbus, Ohio, for \$618,300.

For the three traveling cranes, Harnisch Fager Corporation, Milwaukee, was low with a bid of \$54,593. Second low was the Whiting Corporation, Harvey, Ill., for \$58,900.

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NEW PORTABLE ENGINE HOIST FOR FIELD USE

The design of a new type of engine hoist has been completed at Wright Field, and one experimental unit is being procured.

The advantages of the new hoist are that it is an independent unit which is readily portable in a light truck or cargo airplane. Two men can easily handle it.

Existing hoists must be mounted on heavy trucks or tractors, as a heavy engine being lifted on the end of the boom would tip a light truck over. The new portable hoist is dismantled in two sections, weighing approximately 225 pounds each. When set up in the field, three legs brace the load-bearing structure rigidly on the ground.

The hoist will handle any present or anticipated type of engine. The design provides a margin of safety for a load of 3,000 pounds.

V-8363, A.C.

NOTES ON ACTIVITIES OF NEWLY ESTABLISHED ORGANIZATIONS

36th Pursuit Group (Interceptor)

February 1, 1940, marked the official date of activation for the 36th Pursuit Group (Interceptor), with Major Ned Schramm as the Commanding Officer. The Group is now composed of Headquarters and Headquarters Squadron, with Captain John E. Bodle, Commanding, and the 22nd Squadron, with Captain Glenn O. Barcus, Commanding.

The first meeting of the 36th Group was held January 26th at which time the men were given their squadron assignments and duties. Work - and there was plenty of it - was begun immediately. "The officers and men," says the News Letter Correspondent, "are to be congratulated on their fine spirit and high morale as they literally rolled up their sleeves and began the difficult task of organizing the new Group so that it would function as a tactical organization on February 1, 1940. Their willingness to do their own job and help the other fellow also was highly indicative that they were proud to be charter members of the new 36th Group."

The new Group commenced operating as a tactical organization with an initial quota of 21 officers and 267 enlisted men, 16 P-36A's and one B-10B. The Group will operate at Langley Field, Va., until its permanent base at Puerto Rico is prepared to receive it. Even before the first day of operation was over, a bit of artistic talent came to light when a number of proposed insignias and mottos were submitted by members of the new command.

Effective February 1, 1940, six officers and 53 enlisted men of the 35th Pursuit Squadron were transferred to the 36th Pursuit Group. These men are part of a nucleus busily engaged organizing their group, which is to be stationed in Puerto Rico.

Officers of the 35th Pursuit Squadron transferred to the new Group are Lieuts. H.M. Truitt, W.E. McEntire, Jack Milne, O.E. Tayler, H.P. Rosasco and W.S. Bowen.

"It is with regrets," says the scribe of the 36th Pursuit Squadron, Langley Field, Va., "the squadron says 'Adieu' to the several officers and men who leave to assume positions with the newly designated 36th Pursuit Group. Most felt the loss of the Squadron Commander, Major Ned Schramm, who departs to assume command of the new Group. His presence and ability as squadron commander since July, 1937, instilled a feeling of inspiration and confidence that made for a desire to exert one's utmost to serve under him. Best wishes are extended to him in his new assignment."

promotion and in subsequent assignments. Transfers of Lieuts. Stevenson, League, Rocky, Garrett, DeBolt and Whitfield make the 'Fight Demon' outfit wonder what Puerto Rico has on the ball. It is felt, however, that the squadron will continue its former high efficiency under the guiding arm of Captain Fred H. Smith.

A notation must be made on the loss of First Sergeant Ernst, who steps to a new position as Group Sergeant Major of the new 36th Pursuit Group. With him go 57 men, leaving the Squadron with a mere 163."

29th BOMBARDMENT GROUP (HEAVY)

The newly activated 29th Bombardment Group (H), GHQ Air Force, has jumped into the middle of the Army Air Corps Expansion Program with a big splash. Having been organized only about seventeen hours, the officer personnel and their families met at the Officers' Club for an informal get-together and Group warming up party.

Very appropriate and highly appreciated were the favors donated from the City of Tampa, Florida, where the Group expects to make its future home early this summer. The Group hopes to repay these advance courtesies with a long, pleasant and serviceable tour of duty at Tampa.

Major Vincent J. Meloy is the new Commanding Officer of the 29th Bombardment Group (Heavy), which will ultimately be stationed at MacDill Field, Tampa, Florida.

Major Theodore J. Koenig will become the Commanding Officer of the newly activated 25th Bombardment Group (Heavy), destined for service at Borinquen Field, Puerto Rico.

Major Caleb V. Haynes has been designated as the Commander of the reactivated 41st Reconnaissance Squadron (Long Range), slated for service at MacDill Field, Tampa, Fla.

35th PURSUIT GROUP

Effective February 1, 1940, the 20th Pursuit Group, Moffett Field, Calif., was split to form the new 35th Pursuit Group. The Commanding Officer of the new outfit is Major Aubrey C. Strickland. Officers commanding squadrons of the Group, consisting of the 18th, 20th and 21st Pursuit Squadrons and the Headquarters Squadron are Captains Norman D. Sillin, Orrin L. Grover, P.K. Morrill and 2nd Lieut. Harold B. Wright, respectively.

In celebrating the blessed event, the officers of the 20th Pursuit Group held

a last get-together in the form of a dinner and dance. During the evening, Colonel Robert E.M. Goolrick, Commanding Officer of Moffett Field, and Lieut. Colonel Ross G. Hoyt, Commanding Officer of the 20th Pursuit Group, gave talks on their feelings as "Chief Obstetrician" and "The Expectant Father," respectively. The result of their efforts is the new 35th Pursuit Group, which is now well on its way to maturity.

Says the News Letter Correspondent of the 77th Pursuit Squadron, Moffett Field, Calif.: "After returning from maneuvers (at Sacramento, Oakland and San Francisco), the Twentieth Pursuit Group became the proud father of a four-squadron infant, the 35th Pursuit Group. To this new Group we lost many valuable officers and enlisted men. Lieuts. Putnam, Moore, Lunde, Randolph, Bowie, Hubbard, Sneed, Grosetta, and Sergeants Hillman, Heller, Hall, Jordan, Kean and McLean were a few of the 'old timers' to become charter members of the Thirty Fifth. In such competent hands we are sure the new infant will get no opportunity to become a problem child."

27th Bombardment Group (Light)

The first of February, 1940, is an historic date throughout the Air Corps. Barksdale Field contributed its share by giving birth to a new Light Bombardment Group, an attached Squadron, and a new Air Base Squadron, the two latter organizations to be moved away sometime within the calendar year.

The new 27th Bombardment Group (Light) was activated by splitting the personnel of the old Third Group. The squadrons were divided, half of the 8th becoming the 14th Squadron, half of the 13th becoming the 15th, and half of the 90th becoming the 17th. A few officers were assigned to form the new 37th Bombardment Squadron (Medium) which will eventually become a part of the Composite Group in Anchorage, Alaska. The new 27th Air Base Squadron (single) was also activated for transfer to Tampa, Florida, as soon as the base is ready for them. First Lieut. Byron McClellan is the Commanding Officer of the last named organization.

The 27th Bombardment Group Headquarters Staff is as follows:

Colonel C.L. Tinker, Commanding Officer
2d Lt. H.F. Van Leuven, S-1
2d Lt. E.W. Hampton, S-1, asst.
Major Y.A. Pitts, S-2 and 3.
2d Lt. R.F. Hinton, S-2 and 3 asst. and Communications.

Captain J.F. Guillett, S-4
1st Lt. N.R. Burnett, S-4 Engineering
1st Lt. J. Kane, S-4 Armament

2d Lt. D.K. Fargo, S-4 Supply.
2d Lt. N.H. Van Sicklen, Public Relations.
Master Sergeant Wilber W. Farquhar, S-4
Sergeant Major; Tech. Sgt. Earl J. Leavy is in charge of Personnel, and Tech. Sgt. Henry Lipp is Chief Operations Clerk. Tech. Sgt. John Belechak took Sergeant Lipp's old place as Chief Operations Clerk in the 3rd Bombardment Group Headquarters.

Headquarters Squadron, 27th Bombardment Group (L), is commanded by Major Y.A. Pitts, who is assisted by 2nd Lt. H.F. Lowery. It is understood that Major Pitts is merely loaned to the 27th Group from his regular capacity as 3rd Group Executive until Major G.H. McHenry reports in, at which time he will take over S-2 and 3 and the command of the Headquarters Squadron, 27th Group.

The First Sergeant is J.H. Bundy; the Operations Clerk, Corporal R.L. Dorn; and the Line Chief, Technical Sergeant L.L. Roberts, Jr.

The 15th Bombardment Squadron (L), activated from the 8th Squadron, consists of the following officer personnel:

Capt. J.P. Doyle, Commanding Officer;
2nd Lt. Wm. E. Eubank, Adjutant, Mess and Supply;
2nd Lieut. C.D. Jones, Operations and Intelligence;
2nd Lieut. C.W. Ludwig, Assistant Operations, Public Relations;
2nd Lieut. R.K. Martin, Engineering;
2nd Lieut. W.R. Purinton, Assistant Engineering;
2nd Lt. H.P. Bacot, Tech. Supply;
2nd Lieut. H.W. Oheke, Communications;
1st Lt. L.G. Fairbanks, Armament;
First Sergeant - B. Robinson;
Operations Clerk - Tech. Sgt. A. Groves;
Line Chief - Master Sgt. J.H. Crawley.

The 16th Bombardment Squadron (L), activated from the 13th Squadron, consists of the following officer personnel:

Major B.S. Thompson, Comd'g Officer;
2d Lt. L.C. Adams, Adjutant and Mess;
2d Lt. R.D. Callaway, Tech. and Q.M. Supply;
2d Lt. S. Vosper, Operations and Intelligence;
2d Lt. B.K. Voorhees, Engineering;
2d Lt. Y.S. Tarrant, Armament, Public Relations;
2d Lt. C. Harper, Communications;
2d Lt. R.F. Strickland, S.D. Wing Bomb School.

First Sergeant - H.E. McKelby
Operations Clerk - Sgt. C.A. Reese
Line Chief - Mr. Sgt. R.E. Clifton.

MORE ON NUMBERING RUNWAYS

The 17th Bombardment Squadron (L), activated from the 90th Squadron, consists of the following officer personnel:

Capt. H.A. Parker, Commanding Officer;
2d Lt. N.H. Van Sicklen, Adjutant,
Mess and Supply and Public Relations;
2d Lt. A.T. Culbertson, Technical Supply;
1st Lt. R.C. Paul, Engineering;
2d Lt. L. Drafts, Armament;
2d Lt. H. Galusha, Communications;
2d Lt. C.R. Jorgenson, Operations and Intelligence;
2d Lt. R.H. Anthis, Asst. Operations;
2d Lt. J.A. Miller, Jr., S.D. Wing Bomb. School;
2d Lt. C.T. Olmsted (Sick in Army-Navy Hospital).

First Sergeant - R.S. Stevens
Operations Clerk - Staff Sgt. F. Vallery
Line Chief - Mr. Sgt. R.E. Hoijer

The 37th Bombardment Squadron (Medium) activated from various organizations at Barksdale Field; has already assumed the nickname of the "Polar Bear Squadron." It is rumored that this organization will be moved to McChord Field, Tacoma, Wash., within two or three months, where it will remain until the new base at Anchorage, Alaska, is ready.

The Commanding Officer of this organization is 1st Lieut. C. Baumeister.

The staff comprises -

2d Lt. A.G. Campbell, Adjutant, Mess Supply; Technical Supply;
2d Lt. A. Baker, Engineering;
1st Lt. G.A. Holland, Operations and Intelligence; Public Relations;
2d Lt. O.O. Schurter, Armament;
2d Lt. W.A. Champagne, Communications.

Heading the list of noncommissioned officers are -

H.J. Courtney, First Sergeant;
Staff Sgt. B. Lowery, Operations Clk.;
Mr. Sgt. C.A. Fritiofson, Line Chief.

The new organizations at Barksdale Field, although handicapped by being quartered in the temporary "recruit" barracks, are off to a flying start, both literally and figuratively, and, says the News Letter Correspondent, "we are especially fortunate and proud to be commanded by Col. Tinker, and confident that we will live up to his high expectations in both morale and efficiency."

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Lt. Col. Charles B. Oldfield, Air Corps, on duty at Fort Lewis, Wash., in command of Air Corps troops, is under orders for duty in the Panama Canal Department, being scheduled to sail for his new station about May 14, 1940.

Commenting on the letter of Lieut. Colonel Edgar P. Sorenson, Air Corps, quoted in the January 1, 1940, issue of the News Letter, wherein he advocates utilizing a system of numbering runways according to the numbering as appears on the face of a clock, selecting the approximate center of the landing area for orientation purposes, orienting clock numbering about that center and with 12 always at the north, and selecting and using such numbers from the face of the clock as most nearly fit the positions of ends of runways, landing strips, or usable edges of the landing area, Captain George W. Haskins, Air Reserve, of Arlington, Va., stated in a recent communication:

"It is believed that the current practice of numbering counter-clockwise beginning with '1' north consecutively to include all the runways, is because the numbers will be increasing as one approaches for a landing according to the normal approach procedure, circling the airport to the left.

"The suggestion made in your January first issue is a good one and may help a 'lost' pilot to know his directions more readily at the terminal. However, on those airports not having a runway pointing due north, a similar aid to orientation could obtain by the understanding that No. 1 is toward the most northerly direction and the desired runway can be anticipated (according to my personal opinion) with less mental effort when knowing that as the pilot progresses to the left around the field, the runways are numbered consecutively and in increasing numbers."

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A CORRECTION

In an item in the February 1, 1940, issue of the News Letter (Page 20), referring to aerial reviews in the Panama Canal Department, the 19th Wing was erroneously referred to as the "19th Composite Wing." As a matter of fact, the word "Composite" was eliminated from the official designation of this organization in July, 1937, and subsequent to that date from the designation of other Air Corps units.

The News Letter offers its apology to the 19th Wing, and to such other units as may have inadvertently been referred to as "Composite."

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Effective June 29, 1940, Lieut. Col. Harry H. Young is relieved from duty in the Office of the Chief of the Air Corps and assigned to duty at the Southeast Air Base, MacDill Field, Tampa, Fla.

THE MANEUVERS ON THE WEST COAST

Immediately following the holiday season, the 55th Pursuit Squadron (F), Moffett Field, Calif., was called into action for participation in the very recent "West Coast" maneuvers to act as "Air Defenders" for San Francisco and the adjacent Bay area. The defenders, designated as the "Blue" forces resisted an attack from the sea by the "Black" forces composed of, as the News Letter Correspondent puts it, "our very competent rivals, the Navy." He then goes on to say:

"The result of the maneuvers proved the possibility and the consequent grave danger of an attack on our West Coast.

"It might be mentioned, with a certain amount of pride, that by virtue of the smooth, frictionless operation of all Squadron departments, the 55th achieved a high mark which will always be something to 'shoot at.' This was possible only through the complete co-operation of all Squadron personnel.

"Second Lieut. A. F. Tacon, Air Corps, was in camp only for a matter of two or three days when he became an 'Ace,' having seen his fifth Navy plane through the gun sight. He expected to prove his point when the camera gun mounted on his ship was stripped of its film and the same developed and printed. However, the resulting pictures, although showing some signs of artistry, turned out to be probably the clearest and the most unique photographs ever taken of California landscape.

"It might be stated herein that everyone learned a great deal from the Maneuvers that he hadn't known before, and it is concluded that the more often these activities occur the more we shall learn."

"January, 13th," says the News Letter Correspondent of the 79th Pursuit Squadron, Moffett Field, Calif., "saw this Squadron moving into the field for the Joint Army-Navy Maneuvers. This Squadron was based at the Municipal Airport at Oakland, Calif. Sunday afternoon, the 13th of January, we started the war on paper. Squadron commanders were casualties, airplanes were shot down, reports were rendered as fast as the teletype would operate; all this activity simulated, and very glad we were to call off all operations until the next morning, when Uncle Sam's Navy became the invading forces and we the defenders.

"The first joint problem was a command post exercise, with all engagements simulated and messages giving actions of the enemy, results of engagements, etc., received on the teletype and by radio. This type of problem re-

quires a great number of reports to be rendered and action to be taken by every department in the Squadron, affording excellent training for a majority of the personnel in the organization.

"The high point of the maneuver, from a 'Pursuiter's' point of view, was the engagement of the Navy fighters over Monterey on the 20th of January. This has been nicknamed 'The Battle of Monterey.' It afforded a wonderful opportunity to compare equipment and fighting ability of two separate branches of the service. The outcome, well, we don't believe what we read in the papers!

"The joint exercises were completed on the 21st of January and were followed by First Wing Maneuvers which were hampered by California's 'Damp Haze' and 'Liquid Sunshine.' The maneuver was climaxed for this Squadron when an 'enemy' squadron was forced to land at our airdrome, due to inclement weather. They were captured and escorted under heavy guard to the Airport Restaurant where THEY bought the coffee."

The News Letter Correspondent of the 77th Pursuit Squadron, Moffett Field, Calif., reports on the Maneuvers, as follows:

"The 77th Pursuit Squadron is fresh from the 'war' on the 'Western Front,' which was in reality a cold front; that is what our maneuver detail in Sacramento amounted to. On arrival we found a valley of sunshine and gentle breezes, but believe you me that condition was not long lived. However, thirteen ships finally got away from the fog-bound interior to get our shot at the 'Black Forces.' The next problem we confronted after leaving Sacramento was getting back, which for four days was an impossible task; so our tactical operations were done from Oakland and San Francisco. When the Wing Maneuvers began, we found ourselves on opposite sides from our friends at Oakland and San Francisco; we were naturally prisoners of war, an embarrassing situation to say the least.

"A very unfortunate incident occurred at San Francisco on the date of our return. Lieut. Sprague's plane caught fire while idling on the ground. He jumped out to inspect the plane only to find the motor a blazing inferno. Lieut. Sprague made a valiant effort with extinguishers to save his plane from being a total loss, but without avail.

"It is noteworthy that the convoy of some twenty trucks and ninety men made the trip to and from Sacramento without loss of property or personnel. So, everything considered, a multitude of experience was gained through these man-

euvers."

The 22nd Bombardment Squadron (H), stationed at Hamilton Field, Calif., completed its first maneuvers on January 27th. Although the Squadron has been operating less than three months and has less than one hundred experienced enlisted men, all assigned problems and missions were completed in a manner that would do credit to the oldest squadron. "The Esprit de Corps shown by all members of the squadron while on maneuvers is a tribute to the Squadron Commander, Major J.V. Hart, and his staff," declares the News Letter Correspondent.

The Squadron was quartered in the Municipal Auditorium at Oroville, Calif., where there is located one of the best basketball courts in the State. This court was made available to the Air Corps personnel every evening, much to the enjoyment of all concerned. The Squadron formed a team and played the Oroville Five. After a hard fought contest, the airmen took the smaller end of a 31 to 27 score.

The Squadron conducted its mess in the Memorial Hall and the unanimous opinion of its members was that it could not have been surpassed.

On Saturday evening, January 20th, the officers were the guests of the Elks Club of Oroville for a dinner and dance. On Sunday, the Squadron held open house at the airport, and the entire population turned out to see airmen at rest.

On Thursday, January 25th, the civic organizations sponsored a dance for the enlisted men, with his honor Mayor Palmer as guest of the evening. Mayor Palmer, in a brief speech, said: "It is with pleasure that I welcome the members of the 22nd Bombardment Squadron, U.S. Army Air Corps, to the City of Oroville." "The hospitality shown to all the members of the Squadron by the City of Oroville will make this maneuver long to be remembered," concludes the News Letter Correspondent.

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NEW XB-24 AIRPLANE MAKES ITS INITIAL FLIGHT

The U.S. Army Air Corps' new Bombardment airplane, technically known as the XB-24, recently made its initial flight at Lindbergh Field, San Diego, Calif. Built by the Consolidated Aircraft Corporation, it is a 4-motored Bomber of high wing, all-metal construction. The wing is a full cantilever type of high aspect ratio with four tractor engine nacelles mounted flush to the upper surface of the center section. Fowler type flaps extend inboard of ailerons.

Power is furnished by four Pratt & Whitney 18-cylinder twin-row radial air-cooled engines, rated at 1200 h.p. each. The propellers are Hamilton Standard 3-bladed hydromatic constant speed types, 12 feet in diameter.

The approximate gross weight of the airplane is 40,000 pounds; wing span, 110 feet; length of fuselage, 64 feet; and over-all height, 19 feet. Tactical requirements are for a crew of from 6 to 9 persons, depending upon the mission to be performed.

Control surfaces are fabric-covered and fully counterweighted. A full cantilever horizontal stabilizer has twin fins and rudders mounted at the tips. The all-metal stressed skin fuselage is equipped with hatches and windows in the nose, tail, turtledeck, back and bottom. The landing gear is of tricycle type with single wheel forward. This retracts into the fuselage. The rear or main landing wheels retract into wing wells.

This airplane, from preliminary examinations, gives evidence of living up to the advancements in aerodynamic and performance characteristics predicted. These include a speed of over 300 miles per hour, a range of approximately 3000 miles, and a bomb carrying capacity of approximately 4 tons.

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TRAINING FOR RESERVES AT MAXWELL FIELD

Forty second lieutenants of the Air Corps Reserve, who arrived at Maxwell Field, Ala., last December for a year of extended active duty with the Air Corps, were promptly assigned to the 91st School Squadron for flying training. All graduated from the Advanced Flying School, Kelly Field, Texas, on November 28, 1939, when they were commissioned in the Air Reserve and given the military aeronautical rating of pilot.

Captain Norris B. Harbold, Operations Officer of the 91st School Squadron, stated that the 40 "Fledglings" had to be divided into two groups. One section flies from 8:15 to 9:30 a.m., and the other from 10:15 to 11:30 a.m., daily. They are piloting Attack, Pursuit, Observation airplanes, and are also co-piloting Bombardment aircraft. Navigation, reconnaissance and "blind flying" (instrument) missions are scheduled regularly.

Afternoons are devoted to ground school instruction, Capt. Charles A. Bassett, engineering officer, 23rd Composite Group (Demonstration) teaches engines from 1:00 to 2:00 p.m., and Capt. Harbold teaches navigation from 2:00 to 3:00 p.m.

ALBROOK FIELD SQUADRONS IN PISTOL SHOOT

The 15th Air Base Squadron, Albrook Field, Canal Zone, and Staff Sergeant C.C. Rogers recently won the squadron and individual championships in contests sponsored by the Albrook Field Gun Club.

The Base Squadron's team, composed of 1st Lieut. W.W. Jones, Sergeants Rogers, S.E. Stair, Privates B.E. Cutrer and J. Kaptionak, amassed a total of four victories against no losses for an easy victory in the team competition. Close on that team's heels was the 29th Pursuit Squadron's team with three victories and one loss. The 44th Reconnaissance Squadron won two and lost two, the 24th Pursuit Squadron one victory and three losses, and the 74th Bombardment lost all four contests.

The winning team received a squadron championship pennant, while individual team members were awarded gold medals.

Shooting a total of 1,042 points, Sergeant Rogers won the individual championship and received a sterling silver cup. Sergeant Alford was a close second, shooting a score of 1,037, for which he received a silver medal. The next three highest scorers, Lieut. Jones with 1,028, Pvt. Duquette, 1,028 and Corp. N.A. Johnson, 1,013, received bronze medals.

The score made by Lieut. Jones ranks that of Pvt. Duquette in rapid fire, giving the officer a third place according to N.R.A. rules.

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A MERCY FLIGHT UNDER DIFFICULTIES

Two badly injured CCC enrollees arrived at Hamilton Field, Marin County, Calif., on Sunday, February 4th, after an Army transport plane had battled blizzards, storms and headwinds in a flight from Miles City, Montana.

The two youths, aged 17 and 19 years, were suffering from a broken arm and shoulder and a broken back, respectively, and were transferred immediately to Letterman General Hospital at the Presidio of San Francisco. Neither had responded to treatment at Mazuma, Mont., where they were injured Christmas Day when a CCC truck they were driving had overturned.

The ambulance plane from Hamilton Field left Friday, Feb. 2nd, on what was to have been a non-stop flight to Miles City. Weather conditions, however, forced them down at Salt Lake City, Utah, overnight.

On the following day, Lieut. Charles L. Hamilton, pilot, and Lieut. Kenneth S. Wade, co-pilot, chanced the dash into Montana. On the return flight on Saturday afternoon, snow and ice on the

wings again forced a landing at Salt Lake City. The flight from that city was a battle against a 65-mile per hour headwind, with snow and wind over the Sierras.

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ACTIVATION OF NEW AIR CORPS UNITS

On February 1, 1940, four Hamilton Field officers, in accordance with orders, activated the new Base Headquarters and 19th Air Base Squadron at Hamilton Field, Calif.

Major Raymond Morrison is the Commanding Officer of the new outfit, which will entrain for McChord Field, Wash., sometime after February 15, 1940. Major Thad V. Foster will be the Air Corps Supply Officer; Captain Theodore M. Bolen, Base Engineering Officer, and Captain Chester P. Gilger, Communications Officer.

The new Base Squadron, about which the Base will be organized, will take 385 men from Hamilton Field. The 17th Bombardment Group (Medium) and the 89th Reconnaissance Squadron (Medium Range), will soon make McChord Field their new permanent home, thus completing the West Coast chain of bombing bases.

Upon the activation of the unit, Major Morrison received the following radio-gram from the Chief of the Air Corps:

"My sincerest official and personal congratulations to the commissioned and enlisted personnel of your unit on the day of its activation stop. Many difficulties are certain to arise during the next few months however I have every confidence in your ability and determination to overcome them and this office will render all possible assistance stop. Please read this message to your personnel and accept my very best wishes for a history of successful achievement for your new unit end.

Arnold."

From Barksdale Field, La., the News Letter Correspondent writes as follows:

"The big day that everyone in the thirteenth (Bombardment Squadron - Light) have long waited for finally arrived with a big bang. The Group split-up which we all anxiously looked forward to, took place February 1, 1940, and the thirteenth squadron, not to be outdone, was one of the first of the squadrons to participate in this split-up.


Early Tuesday morning, activity in the thirteenth barracks and on the thirteenth hangar line was first noticed as men busily moved personal equipment and belongings out of the headquarters into waiting cars. Out on the hangar line, the airplanes were dressed up,



"WAIT, I FORGOT MY PARACHUTE."

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1. *Chlorophyll a* and *Chlorophyll b* contents were determined by spectrophotometry using the method of Lichtenthaler and Whistler (1987).

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"The Historie of the Life and Reigne of that Famous Princess Elizabeth," as the author Tho. Browne quotes the title, was printed in 1629 by Tho. Harper and then forwarded to a William Booke at Oxford, who was a noted book seller at that particular time.

The book is believed to have been the property of Zachery Lewis of Brecknock, Wales, and was brought to America between 1670 and 1700. He in turn passed it along with many other books to his granddaughter, Anne Lewis, who was the wife of George Wythe, signer of the Declaration of Independence and member of the Convention of the United States Constitution. She then gave it to her brother, Zachery Lewis, III, Colonel during the American Revolution, and he at his death willed it to Ann Overton, grand niece of Anne Lewis and George Wythe and wife of James McClure, Sr. The latter left the book to his son, James McClure Scott, Jr., and he to his daughter, Nannie Brook, the mother of Jerrie Scott McMullan, who at her death came into possession of the book.

In the author's notation, which is related as "To the Sacred Magestie of my Sovereigne Lord King CHARLES," he states "It was so farre my Ambition, that it was my feare, to make your majesty (who already is of My Colledge) Visitor of my Labours; for indeed, could the honor of this story have descended to the humble content of a lowere patronage, I should no more have adventured the Favor of your protection, than I can deserve it. The only credit which I crave for this inscription is, to counterbalance, not to my reputation, but reason; which tells me that to under value the majestie of this story with a Dedication lesse than Princely, were to furnish, not my labour but errours with a Patronage. Should I heere stele into a seasonable commendation of this subject of this history, I should but inure goodness with some thins applause; and not, blazon, but stifle Virtue in too straight a Panegericke; I will rather leave still, her Name, for a terror to the Romanish faction, her Virtue, for an example to Your envious Imitation, and her unworthy Translator to the gratioous acceptance and Princly pardon of your Majesties."

The "Twelfth Day-Gift" is a small private edition that was gathered and printed by Mr. J. Newbery at the request of the most noble Marquis of Stestars an and a society of young gentlemen and ladies.

This small vest pocket size book contains many small verses, prose and short stories that had been gathered over a period of time by numerous parties and collected and then printed by the author at their request.

"Burns' Works" contains a short biography of Robert Burns, his poems and his letters to his numerous friends.

which is all printed in Scotch.

The edition "Artic Explorations" is of special interest in than it is written not as a scientific record of investigation but rather as a personal journal or diary of the Second Grinnel Expedition in search of Sir John Franklin. These tales are narrated in this book by Elisha Kent Kane, of the Navy Medical Department.

Private Jerrie Scott McMullan is a native of Richmond, Va., and started his collection of aged books and manuscripts while attending grade school in North Eastern County. After graduation from Mitchel High School, 1931, he attended the Lincoln Engineering School at Lincoln, Neb., having specialized in engineering and drafting. McMullan arrived at the airdrome in November, 1939, after serving with the Infantry and Veterinary service, Medical Department, of Cuartel de Espana and Post Area, Philippine Islands, for a period of two years.

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Officers Assigned to Tactical School (Continued from Page 17)

Davies, 2nd Lieut. Howard F. Nichols, Selfridge Field, Mich.; Captain Joseph H. Atkinson, 1st Lieuts. George E. Pierce and John M. Reynolds, Hamilton Field, Calif.; Captains Lilburn D. Fator, Robert D. Johnson, 2nd Lieut. Jean R. Byerly, March Field, Calif.

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FLYING CADET BOARDS VISIT EDUCATIONAL INSTITUTIONS.

Two traveling Cadet Examining Boards were organized at Barksdale Field, La., for the purpose of visiting colleges in the 7th and 8th Corps Areas to examine candidates for flying training at the Air Corps flying schools. Each Board consisted of three Air Corps officers, one Medical officer, one enlisted assistant to the Medical officer, one clerk, one radio operator and two crew chiefs.

One Air Corps officer was designated as advance agent to each board, and departed from Barksdale Field approximately one week in advance of the Board. This officer, flying an A-17 airplane, was scheduled to reach each school from five to seven days ahead of the board in order to publicize Flying Cadet training and the arrival of the board. He contacted the Professor of Military Science and Tactics at each school prior to his arrival, and through him made arrangements for publicity, interviews, lectures, and place for physical examinations.

Both of these advance officers reported that the fullest cooperation was received from the college authorities, as

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well as the Professors of Military Science and Tactics. The tour of these officers was without incident, save in one instance when Lieut. Overing, advance agent for the 8th Corps Area Board, encountered engine trouble at Denver, Colo., and was unable to precede the board to the University of Arizona.

The Eighth Corps Area Board, with Lieut. Colonel Armin F. Herold as president, departed in a B-18A airplane from Barksdale Field on November 5, 1939. During its tour, the Board visited eight colleges, located in Texas, Oklahoma, Colorado, New Mexico and Arizona. At these educational institutions, 417 candidates were examined and 178, or 43%, recommended for appointment. The board returned to Barksdale Field on December 16, 1939.

The Seventh Corps Area Board, with Major Milo N. Clark as President, departed from Barksdale Field on October 31, 1939, also flying in a B-18A plane. This board visited ten colleges, located in Kansas, Arkansas, Nebraska, Iowa, South Dakota, North Dakota and Minnesota. During this tour, 645 candidates were examined and 183, or 28%, recommended for appointment. The Board arrived at Barksdale Field on December 14, 1939.

The heads of the two boards commended very highly the work of Captains Held and Chennault, Medical Corps, who were the Flight Surgeons assigned to the boards, and who were constantly busy giving physical examinations to each applicant appearing for appointment. They further stated that the preliminary work of the advance agents and the assistance of the recorders proved of inestimable value.

Since their return to Barksdale Field, Lieut. Colonel Herold received orders to attend the three months' course at the Air Corps Tactical School, Maxwell Field, Ala., and Major Clark is under orders for duty in the Panama Canal Department.

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THE FLYING INSTRUCTORS AT THE CIVILIAN ELEMENTARY SCHOOLS.

The News Letter Correspondent of the Grand Central Flying School, Glendale, Calif., submits some very interesting data on the various flying instructors on duty at this school, this in order that some idea may be obtained regarding the caliber of the instructors handling the primary training of Flying Cadets at the various "Little Randolphys."

Of 13 instructors mentioned by the Correspondent, ten are Randolph Field graduates; one, Captain Harry C. Claiborne, chief instructor, began his flying career during the World War at Rockwell Field, Calif.; and two, W. F. Hausman and F. H. Tamany, received their flying training at the Naval Air Station

at Pensacola, Fla. Instructors Hausman and Tammany both served tours of active duty, the former with the Marine Corps and the latter with fighter squadrons of the Navy.

Of the ten Randolph graduates, Instructors W. G. Stansbury and E. B. Saxon only recently completed their course there. Instructors W. H. Clark, J. E. Muhn and H. G. Reynolds recently served on active duty with the Air Corps, the first named at Langley Field, and the two last named in the Hawaiian Department; W. S. Elliot was until recently with the Civil Aeronautics Authority in Washington, D. C.; L. S. Heral was recently with the Washington National Guard, and A. R. Strunk served on active duty at Selfridge Field, Mich., and then served with the Minnesota National Guard; H. G. Nicholson was with the Continental Aircraft Company's manufacturing plant at San Diego for the past several years, while George S. Sanford served as an instructor at Randolph Field for two years.

Ed. Note: The News Letter would appreciate receiving information along lines similar to the above from the eight other civilian elementary flying schools.

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CHANGES IN STATIONS OF A. C. OFFICERS

To the Hawaiian Department: 1st Lieuts. Archibald J. Hanna, Aaron W. Tyler, 2d Lt. M. J. Coffield and John M. Ferris, from March Field, Calif.; 2d Lieuts. Marion N. Pharr and Horace A. Shepard from Hamilton and Randolph Fields, respectively; Major Burton F. Lewis and 1st Lieut. William P. Fisher from Mitchel Field, N. Y.; Captain Clyde K. Rich and 2nd Lieut. Henry C. Goodman, from Langley Field, Va.; 1st Lieut. William L. Kimball, from Selfridge Field, Mich.; Captain Richard E. Cobb, from duty with the Organized Reserves, Second Corps Area.

To Washington, D. C.: Major James G. Taylor, from Hawaiian Department, for duty in Office of the Chief of the Air Corps.

The following-named officers, upon completion of their tour of duty in the Hawaiian Department, are assigned to Air Corps stations, as follows:

Captain Walter R. Agee to Hamilton Field, Calif.; Captain Wm. E. Karnes to 15th Observation Squadron, Scott Field, Ill.; Captain Fred S. Stocks to 16th Observation Squadron, Fort Bragg, N. C.; 1st Lieuts. Paul C. Ashworth, Edward Flanick, 2nd Lieuts. George R. Anderson, Ryder W. Finn, Francis H. Matthews, Herbert R. Volin and Lloyd A. Walker, Jr., to Langley Field, Va.; 1st Lieut. Dale O. Smith to Langley Field, Va.

AIR CORPS NEWS LETTER



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The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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UP-TO-DATE HINTS IN INSTRUMENT FLYING

By Captain Charles A. Ross, Air Corps
(Prepared while member of Staff of Instrument
and Navigation Unit, Materiel Division)

Instrument flying in the recent fast, high performance airplanes presents a problem quite different from that to which the Air Corps pilot is accustomed in his normal routine. This fact has been brought home of late with the delivery of airplanes of this type to the Air Corps.

Certain problems are encountered in the flying of these airplanes under instrument conditions in turbulent air which do not exist in the slower, older types. As a result of air bumps which tend to cause rapid accelerations, certain of the instruments show exaggerated readings with very little change in the attitude and direction of the airplane. In addition, under rough air conditions, it is often extremely difficult for the pilot to see and read the instruments distinctly. His head bobs about considerably and this, coupled with the fact that the shock-mounted instrument board itself moves somewhat, causes his vision of the instruments to become exceedingly blurred. Moreover, two of the Rate instruments, the Bank and Turn Indicator and Rate of Climb Indicator, are so responsive to high accelerations while the airplane is flying in turbulent air that a highly different method of instrument use from the usual 1-2-3 system becomes necessary.

A few years ago the installation in Pursuit airplanes of gyroscopic instruments, other than the Bank and Turn Indicator was not advocated, due to the fact that acrobatics and other extreme maneuvers would cause the gyros to upset and render the instruments useless. It has now been determined that the gyroscopic instruments, the Flight Indicator (gyro horizon) and the Turn Indicator (directional gyro) are the only ones which will permit satisfactory flying of high-performance airplanes under every instrument condition. Let it not be construed, however, that the other flight instruments should be re-

moved from the instrument panel, for their use is essential to supplement and check the gyroscopic instruments.

Certain misconceptions appear to exist in the minds of some pilots concerning the proper use of some of the instruments on the instrument panel. Each has been installed for a definite purpose, and knowledge as to its use and function will aid in obtaining the proper combination of readings which alone will accomplish the desired end, namely, a clear, concise picture of the attitude and direction in which the airplane is flying.

In this discussion the term "attitude" will be used considerably. Webster defines attitude as "the orientation of an aircraft in the air as viewed from a stationary spot beneath." Instrument flying is largely a problem of instrument utilization to enable the pilot to visualize the airplane's attitude at all times as clearly as though actual reference to the earth's natural horizon were possible.

Flight instruments on modern airplane instrument panels may be roughly grouped into two main classifications - the Amount Instruments, those which indicate the attitude and heading, and the Rate Instruments, those which indicate how rapidly the attitude and heading are changing when the airplane is not flying a straight and level path. Among the Amount Instruments, the Flight Indicator (gyro horizon) and Turn Indicator (directional gyro) are extremely important. Also included under this classification are the magnetic compass, which shows the bearing or heading of the airplane with relation to magnetic north, and the sensitive altimeter which informs the pilot the height of the airplane above some definite reference level. The Rate Instruments include the Air-Speed Indicator, the Bank and Turn Indicator, and Rate of Climb Indicator.

It has been pointed out heretofore

that certain principles formerly taught concerning instrument flying require modification to permit the flying of high performance airplanes under instrument conditions. These same modifications apply to the flying of any airplane under instrument conditions, and if borne in mind should make flying under the hood easier and much less fatiguing. A brief discussion as to the function, use, and limitations of each of these instruments may be of some value to pilots who are having difficulty in this work.

FLIGHT INDICATOR (Gyro Horizon).— Certain pilots have remarked that the Flight Indicator is unreliable because it depends for its functioning on a gyroscope which upsets if the airplane is maneuvered violently. True, this gyro will upset if the airplane is made to loop, roll or is banked very much beyond the vertical. Actually, there should be no occasion to fly any airplane acrobatically while under the hood or flying in an overcast. The Flight Indicator will not upset unless the airplane is banked twenty degrees beyond the vertical or is put into a climb or dive at an angle greater than fifty-five degrees from the horizontal. The Flight Indicator will indicate accurately the attitude of the airplane without any lag whatsoever and under certain flight conditions is the only instrument available which will satisfactorily indicate attitude.

It may be necessary to observe closely at times to determine if the airplane is nosed up or down a slight amount, for in the standard Flight Indicator one degree of displacement of the airplane produces only one thirty-second of an inch movement of the "little airplane" with reference to the horizontal bar. It is strongly recommended that the pilot use only one of the two lines on the horizon bar.

With the airplane in level flight, the "little airplane" may be adjusted by the use of the available knob to match it against the upper line. In this manner small changes of attitude with resulting small movements of the "little airplane" with respect to the bar may be readily observed. The horizon bar on future flight indicators will consist of a single line, and it is contemplated that the sensitivity will be increased so that small changes of attitude will be more readily distinguishable. There is very little possibility of the Flight Indicator failing entirely, for in the use of many of them during and since the days of the "air mail," the writer has experienced only one failure, which occurred after definite indications of malfunctioning were evident for a half hour or so be-

fore the actual failure.

TURN INDICATOR (Directional Gyro).— This instrument is also equipped with a gyroscope which will upset if extreme maneuvers are attempted. Gentle, medium and fairly steep turns, however, are possible without danger of upsetting it.

If the gyro should upset with resulting spinning of the card, this can be quickly stopped by caging or using the Flight Indicator to return the airplane to level attitude. It is a characteristic of any gyroscope to precess somewhat, necessitating an occasional caging of the instrument and readjustment for the desired compass course.

Excessive precession when observed should be noted on the Form 1 in the airplane and necessary replacement accomplished.

The magnetic compass is very necessary on the instrument panel to determine the course heading which it is desired to fly. However, the standard compass is unsteady in rough air and extreme care must be exercised to maintain level flight if the compass is to be used to hold desired heading. The Turn Indicator is unaffected by roughness of the air or changes in the attitude of the airplane and will indicate accurately the heading if, of course, occasional corrections are made for gyro precession when necessary.

For normal cross-country flying, it is suggested that the pilot use a zero setting of the Turn Indicator to maintain his desired heading, as he will find it is much easier, particularly in rough air, to see and hold the zero matching the lubber line than to attempt to maintain some odd bearing agreeing with the compass card. However, if the problem is one of range orientation, to avoid confusion it is desirable that the Turn Indicator card agree with the compass card. If the pilot is flying a radio compass course, it is much easier to use a zero setting of the Turn Indicator made with a centered radio compass indicator needle than to try to keep the sensitive needle continually centered. If data on the winds aloft is available, so that drift angle may be determined, the amount of this drift angle may be set to the right or left of zero on the Turn Indicator after the radio compass needle has been centered. The airplane may then be turned until a zero turn indicator reading is obtained, thereby applying a drift correction and enabling the airplane to fly a straight course to the transmitting station, instead of a curved path which would result without drift correction.

SENSITIVE ALTIMETER.— Very little difficulty should be experienced in the use of the sensitive altimeter. Although

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its primary purpose is to inform the pilot of the altitude of the airplane above some definite reference, such as sea level, it may be used as an aid in maintaining attitude. For example, stationary altimeter pointers provide an excellent indication that the airplane is maintaining level flight; movement of the pointers either up or down usually is a definite indication that the airplane is either climbing or diving. The latest type of altimeter is provided with both setting indices and a barometric window which give the pilot two methods of accomplishing the correct setting of the instrument while flying the airways. He has merely to adjust the "altimeter setting," furnished by the weather stations along the route, in the barometric window provided to maintain the correct elevation as called for in his flight plan. Pilots must keep in mind that temperature corrections are not taken care of, so that when actually "on instruments," it is advisable to allow a couple of thousand feet additional altitude in order to be sure of clearing the highest point along the course.

If the altimeter is not provided with a barometric window, the pilot, in order to obtain the proper setting of the indices, may refer to the table provided in the Radio Facility Chart, and convert the altimeter setting as broadcast in inches of mercury to feet. Care must be taken to apply the proper setting of the indices above or below the zero. If the pilot upon arrival at his home or other Air Corps station desires to make an instrument landing and prefers to have the altimeter reading zero upon contact with the ground, he may, upon special request from the ground station radio operator, obtain a pressure altitude setting.

AIR-SPEED INDICATOR.—The air-speed indicator can usually be depended upon as a good check on the attitude of an airplane. A steady air speed is a very good indication that level attitude is being maintained, and, similarly, an increasing or decreasing air speed denotes a nosed-down or nosed-up attitude. However, care must be exercised for, due to the inertia of high-speed airplanes, changes in air speed occur slowly as attitude changes, introducing a lag which may be somewhat confusing to the pilot. If the attitude is carefully controlled by use of the flight indicator, very little attention need be given the air-speed indicator.

BANK AND TURN INDICATOR.—Early instrument flying training according to the Stark 1-2-3 system taught that the pilot should center the bank and turn indicator needle, then center the ball

and obtain level attitude in pitch by means of the Rate of Climb Indicator, the Altimeter and the Air-Speed Indicator. Instrument flying in fast, high-performance airplanes has demonstrated that pilots are having considerable difficulty trying to keep the needle of the Bank and Turn Indicator centered. Small changes in direction which occur very rapidly at high speed have the effect of producing extreme swinging of the bank and turn needle, although the actual change in heading may be very small. Even in smooth air conditions, the maintenance of a zero setting of the needle is extremely tedious, and after several hours pilots find themselves exceedingly tired. The use of the gyroscopic instruments for maintaining attitude and heading is much less fatiguing.

It is not advocated, however, that the Bank and Turn Indicator be removed from the board. Pilots should be perfectly familiar with its use, for it is the only instrument which will make recovery possible, if inadvertent neglect of the other instruments has resulted in a spin. Moreover, for occasional reference, a well adjusted Bank and Turn Indicator can be of considerable assistance in the making of turns, although this use is not entirely essential as uniform turns can be accomplished solely with the flight indicator.

In flying instrument checks, pilots are often required to fly without the aid of the Sperry gyroscopic instruments. For this reason it is important to be thoroughly familiar with the use of the Bank and Turn Indicator. The Bank and Turn Indicator should be considered in somewhat the same category as the parachute—desirable to have, knowledge of its use essential, but necessary only for practice or in cases of extreme emergency.

THE RATE OF CLIMB INDICATOR.—The name given this instrument by the Air Corps is perhaps a misnomer. Preferably it should be called, as it is called in most commercial circles, a vertical speed indicator, for it is just that and nothing else. Improper use of the Rate of Climb Indicator can result in considerable confusion. This is particularly true in high-speed, high-performance airplanes where small changes of attitude result in large rates of climb or descent. A recent complaint has been that in flying fast airplanes the pointer of a Rate of Climb Indicator may make unnoticed several revolutions around the dial, after which the pilot has no means of determining if the indication is up or down. Use of the instrument at that point as an attitude indicator may result in a

wrong guess, and the pilot will find his troubles getting serious.

The Rate of Climb Indicator is not intended for use as an attitude indicator. If the pointer position is such that the pilot does not know whether the airplane is ascending or descending, he should immediately match the "little airplane" with the horizon bar on the flight indicator and forget the Rate of Climb Indicator entirely. It will be found that in a few seconds the rate of climb indicator pointer will be stationary on zero or very near zero, providing the airplane is flying in smooth air.

It is suggested that pilots, while under the hood, practice placing the airplane in any unusual attitude, either a climbing or diving turn will do, so that the amount of rate of climb or descent is uncertain; then the airplane should be quickly restored to level attitude by means of the flight indicator and observation be taken of how nicely the rate of climb indicator pointer returns to zero. This test will be more convincing if the safety pilot places the airplane in the awkward attitude.

Because of the fact that the Rate of Climb Indicator will, in smooth air, give a fairly good idea as to whether or not the airplane is maintaining level flight, pilots have gained the misconception that it can be used under all conditions as an attitude indicator. Under certain conditions of flight, the Rate of Climb Indicator will appear to be the biggest liar imaginable. Actually it is not.

For example, while flying over mountainous regions, ascending and descending currents are encountered which cause the rate of climb indicator to show extreme rates of climb or descent, when it is definitely known that the airplane is maintaining level attitude. Due to these ascending and descending currents, the airplane is actually either going up or down exactly as the instrument indicates. Under these conditions, particularly while "on instruments," it is most inadvisable for the pilot to use it as an attitude indicator, for the airplane is apt to be placed in a severe dive or climb. Since descending air currents are often encountered on the leeward side of mountains, plenty of clearance should be allowed while flying under instrument conditions to take care of any loss of altitude which may occur. By the behavior of the Rate of Climb Indicator, experienced instrument pilots are aware of the exact time they are crossing mountain ridges.

Since it has been shown that the Rate of Climb Indicator can at times cause

considerable confusion, it might seem desirable to remove it from the instrument panel. Its removal has been considered, but for instrument landings it is essential to determine when the correct rate of descent has been obtained. Future Rate of Climb Indicators with the pointer travel limited to 170 degrees in either direction from zero, so that no confusion can occur as to whether the indication is of rate of ascent or rate of descent.

Sometimes, as during instrument check flights when the use of the Flight Indicator is not permitted, the pilot must use either the Altimeter or Rate of Climb Indicator to maintain level flight. The Altimeter can be advantageously used by noting the pointer movement. If the Rate of Climb Indicator is used, care should be taken to avoid over-controlling. Let us assume, for example, that a medium turn is being made. The pilot allows the nose of the airplane to drop slightly and discovers that the pointer of the Rate of Climb Indicator is moving downward. Of course the bank is tightened by pulling back on the stick or control column. The pilot must not continue to pull back until the indicator reads zero, for the pointer will not reach zero until the airplane is in a decidedly nosed-up attitude. Instead, the pilot should endeavor to maintain the attitude assumed by the airplane as soon as the direction of the pointer changes, for it will then be in level flight.

RADIO COMPASS INDICATOR.—The Radio Compass is one of the outstanding aids developed to facilitate flying on instruments, but there are a few important things which must be remembered concerning its use. The indicator is extremely sensitive and will respond to the minutest changes in bearing. For this reason expeditious use of the sensitivity knob is recommended to maintain a sensitivity such that about 15 degrees change of bearing of the airplane produces full deflection of the right-left indicator. Visualize the needle as pointing in the general direction of the transmitting station and no difficulty will be had in the "follow-the-needle" sensing of the instrument.

Radio range transmitting stations may be used with complete assurance that the airplane will always be heading toward the transmitting station, but extreme care must be exercised in the use of broadcasting stations, particularly those of the higher frequencies. It is definitely known that the higher frequency waves do not travel in straight lines. Furthermore, the broadcast band is badly crowded with a number of stations on the same frequency, and there

is a chance that the Radio Compass receiver will receive a signal from more than one transmitter at the same time, in which case the bearing indicated will not be a true one. Radio compass bearings on broadcast stations should be carefully checked with the magnetic compass bearing and the estimated position. If any doubt exists, it is recommended that range station bearings only be used. The audio A or N signal often helps in cases of uncertainty.

It would be very desirable if the indications of all of the instruments we have been discussing could be grouped into one ideal flight instrument which would tell the pilot everything he needs to know, so that instrument flying would be as simple as looking out through a large hold in the windshield. Considerable thought is being given to the development of just this sort of instrument.

Until we have it, however, we must use to the best advantage the instruments we have. If the instruments we now have are properly utilized, instrument flying can be just as simple and certainly more accurate than contact flying.

Excellent practice can be obtained in a Link Trainer, but it is true that all flying conditions, particularly those encountered in turbulent air while flying high speed airplanes, cannot be exactly simulated. Instrument flying requires a great deal of practice, and the required minimum of hours "Under the Hood" and "Instrument Other" is not enough.

There is not much chance for instrument flying in formation, but when a pilot is unaccompanied by other airplanes, he may take the golden opportunity of dropping his seat as low as possible and making use of the instruments. An occasional glance outside will assure him that all is clear. In this manner many pilots fly "on instruments" a great deal of the time while on cross-country. They find it not only easier to fly more accurate courses than if "flying contact," but acquire a great deal of confidence in the instruments and their own ability to use them. As a result, when the clouds get down on the tree tops, they do not hesitate to climb up into the overcast and go right on through.

Major John S. Gullet, Air Corps, has been relieved from duty in the Office of the Assistant Secretary of War and assigned to duty as military attache and military attache for air to Canada, with station at Ottawa, Canada.

THE PIRATE REMOVES HIS PATCH

By the France Field Correspondent

Ol' Pirate Morgan, with the patch over his eye, has been slumbering in the environs of France Field these past, long years, oblivious to the many new and revolutionary changes in the Air Corps and the 6th Bombardment Group. His figure is the insignia of the erstwhile 6th Composite Group, now designated as the 6th Bombardment Group.

Perhaps the fuss across the sea, or the fact that there may still be strange places to visit, capture and loot, or perhaps even the miniature tornado which swept his abode a few months ago, roused the ol' boy. At any rate, he now appears with not one, but two good eyes, and wicked ones they are. He feels very strong and competent to rule not the seas, as he did of old when his name was the terror of the Spanish main, but the lanes of the sky which lead to the Panama Canal. When the ol' pirate stirs like this, it means that there is work for everyone, which is exactly the condition at France Field today.

The Pirate's stronghold has trebled in strength in the last few months. New squadrons were due to be activated on the first of February. New, temporary barracks were scheduled to be completed then, too. The Inspector General's representation will arrive in the next two weeks, and the Air Corps Technical Inspector is here at present. So with the moving to new barracks, the check and double check on unit funds, records and so forth, the revaluation of the Post Exchange to admit new organizations, the endless intrigue to obtain "key" men for each organization, as well as the routine work, France Field is a beehive rather than a pirate's nest.

The 25th Bombardment Squadron splits personnel to form the 3rd Bombardment Squadron. The 7th Reconnaissance Squadron furnishes the personnel for the 39th Observation Squadron. The 1st Depot Squadron is disbanded and absorbed by the 16th Air Base Squadron. Headquarters and Headquarters Squadron of the 6th Bombardment Group will be augmented from a skeleton outfit to normal complement by personnel from the 16th Air Base Squadron and the tactical organizations. The 74th Bombardment Squadron, a part of the 6th Bombardment Group, is being organized at Albrook Field, as there is no room here at France Field for it.

Pirate Morgan attained full glory and power when his group was first stationed here at France Field. Now that he has stopped eating Lotus leaves, he will re-

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A FAREWELL TO 2ND BOMB. GROUP PERSONNEL

"It is with great pride, mingled with sorrow," declares the News Letter Correspondent of the 2nd Bombardment Group, Langley Field, Va., "that I write this column."

"Through many years, this, the Second Bombardment Group, has gathered a vast field of data and experience. Many times honors have been bestowed upon the officers and enlisted personnel of this Group. A time has come when the rest of the Air Corps will enjoy and share with us the vast field of experience gained by hard work and long hours. Never a grumble, never a growl. That, my comrades, is something to be proud of. A finer group of officers and enlisted men has never been assembled in any Group in the Air Corps. A great majority of the officers and enlisted personnel has been transferred to the 25th Bombardment Group, which is scheduled for duty in Puerto Rico; the 29th Bombardment Group and the 41st Reconnaissance Squadron whose home station will be Tampa, Florida. The 1st Air Base has also staked a claim, and to them goes our present Group Commander, Lieut. Colonel Clyde V. Finter. To the Air Base, a great gain; to the 2nd Bombardment Group, a great loss. Col. Finter, we wish you the best of luck. Major Theodore J. Koenig will take command of the 25th Bombardment Group.

"Puerto Rico has a wonderful climate. Borinquen Field is the beauty spot of the Island. Cooperation between the civilians and Army personnel is the utmost. Everything is in your favor, Major Koenig, and with your vast experience success must come in your direction. Best wishes, Major Koenig.

"The 29th Bombardment Group also gets a Group Commander with a world of experience in Bombardment Aviation, Major Vincent J. Meloy. Success has always been yours, Major Meloy. May it always continue.

"The 41st Reconnaissance Squadron receives an officer whose name has often blazed across the headlines and ether, Major Caleb V. Haynes, of B-15 fame, who becomes its commanding officer. Luck to you, Major Haynes. The 2nd Bombardment Group will miss you.

"Last, but not least, we have kept Major Harold L. George, who assumes command of the 2nd Bombardment Group, as of February 1. Major George was born in West Somerville, Mass., and attended George Washington University and the National University Law School. He entered the Army in 1917 and served in Bombardment Aviation in France during the World War. Major George won the Bombardment Airplane Race at the National Air Races in 1923, and the National

Bombing Matches in 1925. Major George also graduated from the Air Corps Tactical School in 1932, and the Command and General Staff School in 1937. He was then sent to Langley Field, Va., and assigned to command the 96th Bombardment Squadron, which he commanded until his present assignment as Group Commander of the 2nd Bombardment Group. Your fine record speaks for itself, Major George. This Group is proud to have you as Group Commander.

"Much credit is due the 1st Sergeant of Headquarters and Headquarters Squadron, 2nd Bombardment Group, William E. Nance, who entered the Army as a recruit October 16, 1934, and was promoted from Corporal to the grade of 1st Sergeant on December 27, 1939. That proves what a man can do in the Air Corps with a little effort. Sgt. Nance has guided his organization through a very trying period, with hundreds of men having to be housed, fed and trained. Little thought being given to himself, he has often worked until after midnight in order that his men would be well taken care of. We are very fortunate in having a man of his calibre for our First Sergeant. May his career always be a successful one. A tough job well done - Salutations, Sgt. Nance!

"The following-named officers have been transferred to the 25th Bombardment Group: Majors Theodore J. Koenig, William B. Souza, Edward A. Hillery, Captains Alva L. Harvey, Neil B. Harding, Ford J. Lauer, Ralph E. Koon, Irving L. Selby, John W. Egan, 1st Lts. Carl W. Carlmark, Torgils G. Wold, Jasper N. Bell, George P. Champion, Thomas B. Nixon, 2nd Lieuts. Joseph A. Thomas, Arthur H. Rogers, Clarence K. Longacre, Alan D. Clark, Harvey C. Dorney, David A. Tate, James Giannetti, Theodore R. Aylesworth, Dalene E. Bailey, Raymond F. Blossies, Curtis E. Caton, Winton R. Close, William H. Lang, Charles A. Leidy, Alvin N. Moore, Frederick H. Postal.

"The following-named officers have been transferred to the 29th Bombardment Group: Majors Vincent J. Meloy, Melvin B. Asp, Cornelius E. O'Connor, Hugo P. Rush, Captains William D. Old, Walter G. Bryte, Frank H. Robinson, John A. Samford, Edwin L. Tucker, 1st Lieuts. Carlos J. Cochrane, Charles E. Bockman, 2nd Lieuts. Bela A. Harcos, Chris H. Reuter, Henry C. Godman, William S. Barksdale, John E. Carmack, Phillip L. Mathewson, Charlie R. Bond, Jr., Raymond J. Busse, Earl B. Cook, Robert W. Evans, James L. Lee, Edward P. Myers, John T. Passage, William S. Pocock, Jr., Stuart M. Porter, Clyde A. Ray.

"The following-named officers have been transferred to the 41st Reconnaissance Squadron: Major Caleb V. Haynes;

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By Brigadier General Herbert A. Dargue

This article deals with flying in Panama and, in order that we have a mutual understanding to begin with, let us first dispel the idea that this Isthmian country is a land of constant treacherous weather, with no emergency landing fields and few aids to navigation, and that an airplane pilot faces the perils of tropical storms and jungles every time he flies.

Such is not the case. On the Pacific side of the Isthmus it is possible to travel the distance from Albrook Field to the Costa Rican border without, at any time, being more than 30 or 40 miles from a possible landing field.

This situation does not hold on the Atlantic side, or on the Pacific side to the east of Albrook Field. But with a \$400,000 set-up for building landing fields, there will be some emergency airdromes soon partially to fill these gaps.

It is the policy on the Isthmus to fly the commercial routes, to leave the jungle to the wild animals that like it; to let the weather have its sway. Line squalls and thunder storms are treacherous in the States, and we have them here, too. Leaving Albrook Field and flying westward (the States route), we pass over good fields at La Chorrera, Chame, Rio Hato, Aguadulce, La Mesa, Las Lajas and David. Other fields are available off this route on the Mala Peninsula, or, if we fly down the Pacific toward South America, there is a field at Jaque, about 125 miles from Albrook. Other fields are planned between these two airdromes at San Miguel Bay and La Jolla or Pacora. Fields on the Atlantic side are few in number, but available sites are being surveyed for future development.

All of these fields are being fitted into the plans for air defense of the Canal - auxiliary airdromes, dispersion fields, emergency fields, and each will have some essential facilities, the extent of the installation depending on the size and the location of the individual field.

Shall we examine the radio aids to navigation? And what of the projected aids we have heard mentioned?

There is one radio range beacon on the Isthmus - at Fort Davis, on the Atlantic side of the Canal Zone near France Field. It is for the use of the Army and civilian pilots as well. The easterly leg of this beacon, with a course of 72 degrees, passes over France Field and is laid then on Barran-

quilla and Santa Marta. Its reciprocal of 252 degrees is laid on David, Republic of Panama. The northerly leg, with a course of 22 degrees, is laid on Kingston, Jamaica. The southerly leg, course 207 degrees, passes off the Mala Peninsula after showing the way to Rio Hato. This beacon has been picked up at distances well over 300 miles.

A runway localizer beacon probably will be installed at Rio Hato for bad weather landings. A KW receiver, now being developed, also may be used as a field localizer, mainly for tactical work.

At Cape Mala, southwest of Albrook Field, and at Cristobal Mole, there are identifying stations for radio compass work. The Cape Mala station, broadcasting on 305 KCS, is available for ten minutes at 15 and 45 minutes after the hour. It has an "M" signal. The Cristobal Mole station's signal is "T," with broadcasts of ten minutes starting on the hour and half hour. The Navy has a station at Summit, in the Canal Zone, which is available on call. There is also a Naval station at David, in the western part of the Republic.

In addition to their regular broadcasting stations, Albrook and France Fields have airdrome control sets of 25 watts, broadcasting on 219 and 201 KCS, respectively, which are available on request for radio compass work. In Colon, on the Atlantic side, and Panama City, on the Pacific side, are commercial stations of 250 and 100 watts, respectively, and are available for radio work during the hours of operation. There are similar stations in other Latin and South American countries.

When traveling through Central and South America, the Air Corps has become largely dependent on Pan American Airways for radio facilities. The Pan American stations have been very cooperative in every way possible and have never failed to do their bit to help the Army pilot with radio bearings, weather reports, or any other information which they could provide. When the trained airman in Panama mentions tropical weather he does not shudder with fear, for he knows that most any rainstorm he sees is generally of a local nature and, if he cannot fly around it, he can wait until the storm passes on and continue on his way. Seldom are fields in Panama closed in for more than an hour at a time.

The dry season in Panama is ideal for flying. And when those big tropical moons lay bare the landscape of its

blanket of darkness, the co-pilot has an additional job to awaken the pilot from his dreams of perfumed gardens and languid lassies.

In the wet season we do our flying in the morning - a good rule. But the afternoon storms often pass and disclose a beautiful sky with its Southern Cross so that we may play hide and seek with the artillery searchlights among the remaining clouds.

This country is "on the up" for the airman - increasing aids to navigation, better information on the weather, more airports, a larger number of our pilots gaining experience and finding good flying ahead.

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MOFFETT FIELD'S POPULATION INCREASES

For the past few years, Moffett Field has been a small and virtually unknown post in the Air Corps. Numerous officers and men of the Air Corps knew little of its existence or location. However, with the large expansion throughout the Army, Moffett Field takes its place as a leading post. From a strength of 350 officers and men, it has jumped to some 2100 officers and enlisted men. At the present time two Pursuit Groups, the 20th and 35th, and the 82nd Observation Squadron and 9th Air Base Squadron are located at Moffett Field.

With the large expansion in men and tactical units, Moffett Field, commanded by Colonel Robert E.M. Goodrick, has become a leading Air Base of the GHQ Air Force and a beehive of activity. Throughout the day can be heard the commands of the drillmasters giving the recruits a work-out. The drone of a formation of P-36A's high in the sky becomes a familiar sound.

In the field of sports we find two football fields, complete with bleachers, locker and shower room, a new baseball diamond and a quarter mile track in the process of construction. Moffett Field already has four asphalt tennis courts and one of the finest and best equipped gymnasiums in the Army.

Located in beautiful Santa Clara Valley, at the southern end of the San Francisco Bay, Moffett Field has excellent flying weather most of the year and is usually accessible when other fields nearby are closed. Visiting officers are welcome at Moffett Field, and their stay will be both delightful and refreshing.

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During January, the Engineering Department of the San Antonio Air Depot, Duncan Field, Texas, overhauled 11 airplanes and 137 engines and repaired 54 planes and 21 engines.

AIR CORPS ENGINEERING SCHOOL TO REOPEN

The Air Corps Engineering School, Wright Field, Dayton, Ohio, will reopen with the school year 1940-41. Due, however, to the lack of trained Air Corps officer personnel required to carry out the Expansion Program in all its phases, only officers assigned to the Materiel Division will be selected to attend the course.

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Farewell to 2nd Bomb. Group Personnel (Continued from Page 6)

Captain Curtis E. LeMay, 1st Lieuts. Richard S. Freeman, James H. Rothrock, Herbert A. Orr, 2nd Lieuts. John B. Montgomery and Hiette S. Williams.

That is our contribution to the Air Corps. May we wish all the officers and enlisted men who have been transferred "Many Happy Landings."

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The Pirate Removes His Patch (Continued from Page 5)

gain full power, vim and what have you, once more. Then he will sail his planes across the Isthmus to his new abode at Howard Field, leaving France Field with its well-planned and excellent airdrome in the offing, to the 7th Reconnaissance and the 39th Observation Squadrons as the permanent occupants of the old Pirate's den.

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"BLOWING OFF STEAM" AT GLENDALE SCHOOL

Flying Cadet traditions comparable to those at Randolph Field are being developed at the Air Corps Training Detachment at Grand Central Flying School at Glendale, Calif. The latest of these is the "shake the dust of primary training from our shoes" ceremony wherein, on their final flight in PT-13A's, the Cadets remove their shoes and "bomb" some predetermined isolated area with them.

The Cadets are looking forward to the return of summer weather, when the big tile swimming pool at the detachment will again be filled with water and Dodos can be tossed therein, flying attire and all, to cool off after making their first solo flight.

One of the Post Office Department's largest mail boxes has been installed on the front porch of detachment headquarters, so that the salute-the-mail-box tradition can be properly carried out. And, needless to say, since California is the land of grape fruit culture, goggles for breakfast are another observance at this detachment.

A total of 425 students (404 from civil life - 21 from the Regular Army), constitutes the February, 1940, class of students beginning primary flying training, under the status of Flying Cadets, at the civilian elementary schools selected, under the Air Corps Expansion program, to give this phase of instruction.

The above number of students is divided among the civilian elementary schools, as follows:

Alabama Institute of Aeronautics	47
Chicago School of Aeronautics	28
Dallas Aviation School	68
Grand Central Flying School	47
Parks Air College	41
Ryan School of Aeronautics	42
Santa Maria School of Flying	63
Spartan School of Aeronautics	89
Total	425

The names and residences of these students are enumerated below, as follows:

Alabama Institute of Aeronautics,
Tuscaloosa, Ala.

Gale, Herbert T.	Branford, Conn.
Cullen, James W.	Hartford, Conn.
Speiman, George Joseph	New London, Conn.
Buffum, John	Wallingford, Conn.
McDonnell, Daniel D.	Wilmington, Del.
McDaniel, Samuel R., Jr.	Gainesville, Fla.
Mangham, James W., Jr.	Americus, Ga.
Helbig, Harry F.	West Lafayette, Ind.
Naylor, Winford Caldwell	Brookline, Mass.
Riordan, Jeremiah P.	Worcester, Mass.
Walbridge, Maurice E., Jr.	Ann Arbor, Mich.
Burns, Eliam B., Jr.	Hamilton, Miss.
Conlau, Douglas M.	Montclair, N.J.
McDowell, William A.	Oaklyn, N.J.
Miles, Frederic Earl	Canastota, N.Y.
Smith, Walter S., III	East Syracuse, N.Y.
Edmonds, Harold Wright	Garden City, N.Y.
Reynolds, Gardner Mead	Ithaca, N.Y.
Kenerson, Charles H.	Ithaca, N.Y.
Sponsable, Edson J., Jr.	La Guardia, N.Y.
LaPorta, Carlo A.	New York, N.Y.
Ferrante, Casey C.	Rochester, N.Y.
Zeng, William Bernard	St. Albans, N.Y.
Rolshouser, Victor A., Jr.	Concord, N.C.
McArthur, Charles N.	Fayetteville, N.C.
McCall, David D.	Fremont, N.C.
Berry, John E.	Raleigh, N.C.
Pittman, Robert C.	St. Pauls, N.C.
Whitley, Raymond B., II	Wendell, N.C.
Hansen, Albert E., Jr.	Fargo, N.D.
Butler, Maurice E.	Scranton, N.D.
Bower, William M.	Cleveland, Ohio
Keate	Dallas, Pa.
James, John E., Jr.	Dormont, Pa.
Evans, Harry W.	Philadelphia, Pa.
Loftus, Joseph Francis	Philadelphia, Pa.
Mooney, Joseph Francis	Philadelphia, Pa.
Friedman, Verner William	Pittsburgh, Pa.
Murphy, James Herbert	Pittsburgh, Pa.
Stamm, William Albert	Pittsburgh, Pa.
Wells, Richard Wellington	Trucksville, Pa.
Boyd, Donald Robert	Chepachet, R.I.
Black, John Ellis	Pawtucket, R.I.
Brady, William P.	Columbia, S.C.

Felton, George Franklin	Arlington, Va.
Eastham, Rosser Jackson	Charlottesville, Va.
Powell, William H.	Morgantown, W. Va.

Chicago School of Aeronautics, Glenview, Ill.

Rogers, C.E.	Villa Grove, Ill.
Martin, K.F.	Bloomington, Ind.
McClarren, E.E.	Crawfordsville, Ind.
Taylor, W.B.	Indianapolis, Ind.
Summers, R.W.	Hammond, Ind.
Pfinget, W.K.	Syracuse, Ind.
Burnett, D.N.	Bloomington, Ind.
Bruch, N.E.	Blairstown, Iowa
Sexton, Douglas	Ames, Iowa
Thompson, R.A.	Keota, Iowa
Reed, W.N.	Marion, Iowa
Bowers, Warren	Logan, Iowa
Burnette, J.S.	Nicholasville, Ky.
Bochenck, E.L.	Grand Rapids, Mich.
Carey, E.J.	Hibbing, Minn.
Cooley, R.L.	Minneapolis, Minn.
Butenas, Carl	Brooklyn, N.Y.
Fitzpatrick, P.N.F.	New York, N.Y.
Forstner, F.R.	Yonkers, N.Y.
Jamieson, A.C.	Cleveland, Ohio
Kidd, J.B.	Oberlin, Ohio
Floyd, C.H., Jr.	Lexington, Va.
Satterfield, Paul, Jr.	Weston, W. Va.

Dallas Aviation School and Air College,
Dallas, Texas

Berney, Oscar R., Jr.	Birmingham, Ala.
Lewis, Wm. C.	Birmingham, Ala.
Maloney, John E.	University of Ala.
Dillon, James E.	Denver, Colo.
Sharpless, Charles D.	Wilmington, Del.
Moon, Solomon D.	Gainesville, Fla.
Hardee, Cary A.	Trenton, Fla.
Asbury, Robert B.	Atlanta, Ga.
Elton, Albert M.	Atlanta, Ga.
Fulton, Wm. L., Jr.	Atlanta, Ga.
Weibel, John G.	Atlanta, Ga.
Keiley, Edward M.	Athens, Ga.
Mangleburg, Lacy F.	Athens, Ga.
Hardy, Charles P.	Augusta, Ga.
Anderson, James A.	Dahlonega, Ga.
Cheatham, Sidney F.	Macon, Ga.
Hammond, George W., Jr.	Newman, Ga.
Maxwell, Jesse N.	Zebulon, Ga.
Cantor, Louis	Chicago, Ill.
Crowell, George T.	Chicago, Ill.
Hernlund, Richard T.	Chicago, Ill.
Lewis, Wm. V.	Chicago, Ill.
Jerome, Forrest Lenox, Jr.	Aurora, Ill.
Weldon, William James	Dwight, Ill.
Lewis, Carl F., Jr.	Jessyville, Ill.
Elliott, James V.	Kewanee, Ill.
Radebaugh, Gus H., Jr.	Urbana, Ill.
Shank, Robert Bruce	Indianapolis, Ind.
Layson, John C.	Lafayette, Ind.
Small, Lytle Wm.	W. Lafayette, Ind.
Swann, Chesley L., Jr.	Anchorage, Ky.
Ramsey, James K. III	Madisonville, Ky.
Welch, Wesley K.	Bernice, La.
Burke, Dracos Dimitry	New Iberia, La.
McKoy, Edwin A.	New Orleans, La.
Evans, Edwin C.	Columbus, Ohio

Marshall, Thomas O. Culver, Ind.
 Clinch, James S., Jr. Bethlehem, Pa.
 Heldreth, Howard S. Philadelphia, Pa.
 Whitaker, Richard H. Roxborough, Pa.
 Rethmel, Robert C. Ann Arbor, Mich.
 Meehan, James J., Jr. Grosse Pt. Farms, Mich.
 Kinsey, John E. Houghton, Mich.
 Gibb, James A., Jr. Lansing, Mich.
 Gallagher, John V. Bayonne, N.J.
 Salisbury, Donald W., Jr. Madison, N.J.
 Southard, Charles S. Brooklyn, N.Y.
 Cutler, Stuart G. Fort Slocum, N.Y.
 Veal, Wm. Watterston New Rochelle, N.Y.
 Grogard, Andrew J. New York, N.Y.
 Shanlian, Heros New York, N.Y.
 Cassidy, John A. St. Albans, N.Y.
 Semino, Guido John Solvay, N.Y.
 Thompson, Archibald N., Jr. Walton, N.Y.
 Caffney, Bernard J. Watertown, N.Y.
 Neal, Joseph A., Jr. Chattanooga, Tenn.
 Lassberg, Alexander A. Austin, Texas
 Altman, George H. San Antonio, Texas
 Logan, James C. San Antonio, Texas
 Oxley, Thurston P. Suffolk, Va.
 Jacquet, Edward M., Jr. Edgerton, Wisc.
 Clarke, Weldon T. Madison, Wisc.
 Stoeper, Donald J. Manitowoc, Wisc.
 Richardson, Paul A. Oconomowoc, Wisc.
 Larson, Robert H. Stevens Pointe, Wisc.
 Sheahan, Wm. F., Jr. W. Allis, Wisc.

Grand Central Flying School, Glendale, Calif.

Bradbury, Edwin P. Glendale, Ariz.
 Young, Robert L. Paragould, Ark.
 Moody, William W. Bakersfield, Calif.
 Kellar, Douglas H. Berkeley, Calif.
 Bancroft, Benjie G. Los Angeles, Calif.
 Massey, Russell A. Los Angeles, Calif.
 Bergen, Robert C. Orange, Calif.
 Harris, Merle W. Riverside, Calif.
 Graham, Owen R. Riverside, Calif.
 Heckathorne, Malcolm B. San Leandro, Calif.
 Mann, Dennis Santa Cruz, Calif.
 Osgood, John C., Jr. Hansen, Idaho
 Ambrose, Elmer E. Chicago, Ill.
 Woods, Edwin A. Chicago, Ill.
 Read, Arlyn V. Peoria, Ill.
 Welch, George S. Lafayette, Ind.
 Eugenes, Hubert L. Story City, Iowa
 Redding, Tom M. Manhattan, Kans.
 Koscinski, Arthur J. Detroit, Mich.
 Porter, Richard A. Hanover, Mich.
 Kriel, Erwin R. St. Joseph, Mich.
 Lowenberg, Robert B. St. Paul, Minn.
 Irvine, Chauncey Bozeman, Mont.
 Blackstone, Hollis Monroe Absarokee, Mont.
 Kruzic, Marion J. Linn, Mont.
 Nelson, De Laurence O. Fargo, N.D.
 Haas, Lucien C. Youngstown, Ohio
 Davis, Jack C. Muskogee, Okla.
 Blackledge, Roscoe B. Stillwater, Okla.
 Hampshire, John F., Jr. Grant's Pass, Ore.
 Armstrong, Tom L. Amarillo, Texas
 Bleymaier, Joseph S. Austin, Texas
 Barton, John R. El Paso, Texas
 Butler, Gerald E. Portland, Ore.
 Abbott, Zane Cremona, Utah
 Carter, Thomas J. Salt Lake City, Utah
 Goldsworthy, Robert F. Rosalia, Wash.

Porter, Grenville Neil Tacoma, Wash.
 Downing, Carroll A. Fort Atkinson, Wisc.
 Baclawski, Walter J. Milwaukee, Wisc.
 Walker, William J. Torrington, Wyo.

Parks Air College, East St. Louis, Ill.

Comstock, K.N., Jr. Fayetteville, Ark.
 Gray, G.B. Fayetteville, Ark.
 Turner, D.L. Fayetteville, Ark.
 Keathley, R.C. Danville, Ark.
 Johnson, J.P. Malvern, Ark.
 Bishop, Edwin, Jr. Lowell, Ark.
 Schrader, H.C. Champaign, Ill.
 Engelman, F.C. Chicago, Ill.
 Wiss, C.S. Chicago, Ill.
 La Rocque, G.R. Kankakee, Ill.
 Martin, W. McC. Rock Island, Ill.
 Kozlowski, J.J. Boston, Mass.
 Sayles, G.E. Pittsfield, Mass.
 Sweikhardt, K.W. Ludington, Mich.
 Cooney, J.C. Roseville, Mich.
 Bonin, D.E. Minneapolis, Minn.
 Wylie, T.T. Lakewood, N.J.
 Torresson, T.S., Jr. North Bergen, N.J.
 Broemel, W.F. Pennington, N.J.
 Burke, T.J. Ridgefield Park, N.J.
 Falliam, D.L. Bloomfield, N.J.
 Morgan, William T. Binghamton, N.Y.
 Ackerly, R.A. Crystal Run, N.Y.
 Krasnomowitz, Alex Bronx, N.Y.
 Kingsford, T.J. Ithaca, N.Y.
 Leonard, N.J. New York, N.Y.
 Richards, W. L. New York, N.Y.
 Brown, Fred D., Jr. Ithaca, N.Y.
 Nicoletti, F.N. Hempstead, N.Y.
 Fisher, J.K. Providence, R.I.
 Abbott, Nathan M. Burlington, Vt.
 Peeke, A.J. Fon du Lac, Wisc.
 Miller, D.C. La Crosse, Wisc.
 Yahr, R.R. Madison, Wisc.
 Longridge, E.F. Madison, Wisc.
 Doherty, G.O. Milwaukee, Wisc.
 Tindall, Kenneth O. Waterford, Wisc.

Ryan School of Aeronautics, San Diego, Calif.

McMillan, Donnelly R. Parks, Ariz.
 Vogt, Karl L. Phoenix, Ariz.
 Gartin, Herbert Tucson, Ariz.
 Rombach, Lionel E. Tucson, Ariz.
 Sawyer, Charles W. Tucson, Ariz.
 Freeman, Garnett L. Yuma, Ariz.
 Schwartzman, Frank J. Encino, Calif.
 Stein, Joel E. San Mateo, Calif.
 Humiston, Leonard S. Vencico, Calif.
 Shipley, George W. Berkeley, Calif.
 Ramos, Eldred Danville, Calif.
 Schaefer, Albert G., Jr. Hollywood, Calif.
 Bray, Jack William La Nea, Calif.
 Markovich, George M. Long Beach, Calif.
 Allen, Charles Gilpin Los Angeles, Calif.
 Harmon, William Monroe Los Angeles, Calif.
 Hall, Glenn Wayne Novata, Calif.
 Miller, Ralph V. San Diego, Calif.
 Robertson, Vernon Owen San Diego, Calif.
 Seyms, Beach Wyndham San Francisco, Calif.
 Yanuskus, Barney P. San Francisco, Calif.
 Eichel, Henry H. Ventura, Calif.
 White, Joseph Dent Wilmer, Calif.
 V-8375, A.C.

Steele, Kenneth S.	Windsor, Calif.	Thompson, Leslie M.	Katy, Texas
dasRames, Henry Brown	Denver, Colo.	Neiser, Joseph B.	Austin, Texas
oarTerry, Henry M. III	Fort Collins, Colo.	Hendriz, Francis W.	San Antonio, Texas
oarWarren, Earl T.	St. Anthony, Idaho	Sansom, Byron M.	San Antonio, Texas
oarWilleford, Edward Gwen	Hardin, Mo.	Gary, Arthur Edward	San Marcos, Texas
Mayberry, Zeno O.	Leadwood, Mo.	Kuykendall, Matthew W.	San Saba, Texas
Bonewitz, Norval G.	Missoula, Mont.	Saegert, Jesse Joe	Seguin, Texas
Evans, Harry L.	Miami, Okla.	Ingram, Willie E.	Sweetwater, Texas
Kelly, Sam E.	Norman, Okla.	Christman, Luther Gwen	Texas City, Texas
Beach, William E.	Stillwater, Okla.	Marchbanks, Alphonso C. III	Waxahachie, Texas
Chrisman, Everett Lowell	Stillwater, Okla.	Parsons, Freeman A.	Salt Lake City, Utah
Lauer, William J.	Stillwater, Okla.	Hood, Stanley J.	Cheney, Wash.
Voyles, Ross E.	Stillwater, Okla.	Symbol, James J.	Pullman, Wash.
Simmons, William N.	Teresita, Okla.	Tennies, Robert L.	Milwaukee, Wisc.
Jenkins, Paul	Salt Lake City, Utah		
Eberhardt, Frederick E.	Salt Lake City, Utah		
Baer, Charles R.	Salt Lake City, Utah		
Bennion, Karren Layne	Salt Lake City, Utah		
<u>Allen Hancock College of Aeronautics,</u>		<u>Spartan School of Aeronautics, Tulsa, Okla.</u>	
<u>Santa Maria, Calif.</u>			
Sturgeon, Marvin G.	Fillmore, Calif.	Thompson, Henry E.	Tuskegee, Ala.
Engman, Harry W.	Palo Alto, Calif.	Beezley, Wilbur B.	Everton, Ark.
Johnson, James M.	Boulder, Colo.	Worwood, Frank F., Jr.	Key West, Fla.
Rosener, Maurice	Fort Collins, Colo.	Mizell, Byron B.	Tallahassee, Fla.
Jones, Harry, Jr.	Grand Junction, Colo.	Hickey, Jasper P.	Cusseta, Ga.
Muckley, Dwight S., Jr.	Pueblo, Colo.	Daly, John P., Jr.	Newark, Del.
Butler, Jack H.	Moscow, Idaho	Christy, John Y.	Meridian, Kans.
Mackin, Joseph W.	St. Anthony, Iowa	Jones, Dale C.	Simpson, Kans.
Lewis, Warren R.	Superior, Iowa	Beckett, Thomas P.	Blue Mound, Ill.
Nash, Clifford	Wellington, Kans.	Ert, Gilbert E.	Chicago, Ill.
Ketcher, Jesse J.	Wichita, Kans.	Omena, Gilbert I.	Chicago, Ill.
Pribonick, Charles J.	Keewatin, Minn.	Marvel, George B.	Clinton, Ill.
Brin, Glenn O.	McIntosh, Minn.	Porter, Russell A.	Galesburg, Ill.
Hugill, Robert M.	Minneapolis, Minn.	Hagerstrom, Hobart S.	Galesburg, Ill.
Norsen, Robert A.	Minneapolis, Minn.	Levy, Harold K.	Streator, Ill.
Henry, Fred G.	Monette, Mo.	Hopkins, Rex W.	Centerpoint, Ind.
Bollwerk, Valentine W.	St. Louis, Mo.	Harvey, Lyman K.	Lafayette, Ind.
Schubert, Leland C.	St. Louis, Mo.	Rush, Floyd C.	Lafayette, Ind.
Cowger, George T.	Craig, Nebr.	Laczi, Robert C.	West Chicago, Ind.
Hansen, Harold R.	Omaha, Nebr.	Rosenthal, Herbert	Council Bluff, Iowa
Maloney, Jack A.	Omaha, Nebr.	Melloan, Barry E.	Lexington, Ky.
Marrs, Roy M.	Omaha, Nebr.	Ebereas, Richard J.	Louisville, Ky.
Tetiva, Ervin J.	Omaha, Nebr.	Saad, John I.	Pikeville, Ky.
Herrman, William A.	Osceola, Nebr.	Garrison, Lionel B.	Rogers, Ky.
Peterson, Chester A.	Devils Lake, N.D.	Hassett, Francis T.	Great Barrington, Mass.
Miluck, Edward T.	Grand Forks, N.D.	Mulvey, Wm. E., Jr.	Worcester, Mass.
Burda, Orville F.	West Dickinson, N.D.	Pettypiece, Bruce L.	Birmingham, Mich.
Wilson, James F.	Altus, Okla.	Costello, Dan J.	Minneapolis, Minn.
Johnson, Harve N.	Fallas, Okla.	Johnson, Richard C.	Minneapolis, Minn.
Fagen, Daniel W.	Keifer, Okla.	Jackson, Clarence J.	St. Paul, Minn.
Cremer, Francis X.	Lawton, Okla.	Oliver, Stuart K.	St. Paul, Minn.
Carr, John L.	Norman, Okla.	Sheelar, Clare J.	St. Paul, Minn.
Frieden, Delbert L.	Stillwater, Okla.	Edwards, Fred N.J.	Boone, N.C.
Tebault, Robert E.	Tulsa, Okla.	Parcell, Bruce F.	Cleveland, N.C.
Berry, Richard J.	Rapid City, S.D.	Sensenbach, Elmer N., Jr.	High Point, N.C.
Paulson, Gordin L.	Sioux Falls, S.D.	Eddy, Ernest C.	Fargo, N.D.
Purcell, Stuart M., Jr.	Austin, Texas	Browning, W.J.	Haddonfield, N.J.
Miller, Seldon T.	Bellevue, Texas	Baiada, Laurence A.	Riverside, N.J.
Thornton, Charles V.	Blum, Texas	Collinson, Wm. S.	Somerville, N.J.
Gallup, Kenneth W.	Clint, Texas	Johnson, Arnold K.	Teaneck, N.J.
Beckham, Charles A.	College Station, Texas	Zampieri, Robert C.	Union City, N.J.
Green, Harry B., Jr.	Dallas, Texas	Stieg, Carl A.	Astoria, N.Y.
Hanks, Marshall Bowie	Dallas, Texas	Karpel, Raymond	Bronx, N.Y.
Herron, Thomas Jackson	Dallas, Texas	Ehrlick, Jack S.	Brooklyn, N.Y.
Lincoln, Charles F., Jr.	Dallas, Texas	McKaba, Edward	Brooklyn, N.Y.
Gross, Elery George	Greenville, Texas	Oettinger, Frederic N., Jr.	Forest Hills, N.Y.
Duncan, Glenn Emile	Houston, Texas	Kiyak, John J.	Ithaca, N.Y.
Richardson, Elmer W.	Houston, Texas	Daghi, Alexander J., Jr.	Ithaca, N.Y.
Morgan, Kenneth Earl	Jacksboro, Texas	Morris, Frederick H.	Ithaca, N.Y.
		Stebach, Michael E.	Ithaca, N.Y.
		Lundell, Richard M.	Long Beach, N.Y.
		Early, Eugene T.	New York, N.Y.
		Ricks, William B.	Bockville Center, L.I., N.Y.
		Russell, David B.	Syracuse, N.Y.

Riggs, William O.	Columbus, Ohio	McDonald, J.L.	Chicago, Ill.
Booth, Robert E.	Fremont, Ohio	A.C. Det., Chicago, Ill.	
Smith, Paul Wesley	Middleport, Ohio	Norris, Othniel	Owansburg, Ky.
Landrum, Ray E.	Frederick, Okla.	Scott Field, Ill.	
Pinkerton, Clyde M.	Muskogee, Okla.	Holtz, C.J.	Clifton, N.J.
Price, Clyde E.	Stillwater, Okla.	Mitchel Field, N.Y.	
Cheli, Ralph	Bethlehem, Pa.	Sammels, Beverly	Wichita Falls, Texas
Gibson, Charles A.	Bethlehem, Pa.		
Germick, Stephen G.	Forty Fort, Pa.		
Paules, Francis S.	Lansdale, Pa.		
Steele, Thomas Emmett	Lewisburg, Pa.		
Kratz, Robert L.	Norristown, Pa.		
Comber, William N.	Philadelphia, Pa.		
Levering, William C.	Philadelphia, Pa.		
Stansberry, Charles E.	Clinton, Tenn.		
Weaver, Dempsey, Jr.	Nashville, Tenn.		
Blakemore, Emmett F., Jr.	Austin, Texas		
Riha, Amos F.	Austin, Texas		
Holmes, Robert W.	College Station, Texas		
McClintick, Charles R.	College Station, Texas		
Taylor, John F.	Center, Texas		
Appelt, Osborne W.	Gonzales, Texas		
Dingle, John E.	Houston, Texas		
Johnson, Simoh H., Jr.	Houston, Texas		
Atcheson, Benjamin R.	Lubbock, Texas		
Luscombe, Fergus C.	Lubbock, Texas		
Warner, Rudolph B.	San Antonio, Texas		
Edwards, George A.	Zephyr, Texas		
Harlow, Henry M.	Charlottesville, Va.		
Schusle, William E.	Milwaukee, Wisc.		
Van Epps, David A.	Williams Bay, Wisc.		

Note: The students listed above were appointed Flying Cadets from civil life.

The students listed below were appointed Flying Cadets from their status as enlisted men of the Regular Army, viz:

Chicago School of Aeronautics, Glenview, Ill.

Root, R.C.	Chicago, Ill.
Chamute Field, Rantoul, Ill.	
Probst, A.E., Jr.	Taylor, Texas
Scott Field, Ill.	
Lambert, B.W.	Harman, W. Va.
Fort Monroe, Va.	
Henley, L.S., Jr.	Huntington, W. Va.
Fort Bragg, N.C.	
Holtz, Arthur, Jr.	Milwaukee, Wisc.
Chamute Field, Ill.	

Dallas Aviation School & Air College
Dallas, Texas

Jacobs, Kenneth C.	New Hyde Park, L.I., N.Y.
Mitchel Field, N.Y.	
Lorence, Wm. A.	Queens Village, L.I., N.Y.
Mitchel Field, N.Y.	

Grand Central Flying School, Glendale, Calif.

Korman, Julius A.	Los Angeles, Calif.
March Field, Riverside, Calif.	
Hall, Paul J. (Sgt.)	San Diego, Calif.
March Field, Riverside, Calif.	
Kaeberle, George E., Jr.	Loveland, Colo.
A.C. Det., Glendale, Calif.	
Sheehan, Gerald E.	Chicago, Ill.
4th Obs. Squadron, GHQ Air Force	
Soukup, Reynold A.	Chicago, Ill.
Selfridge Field, Mich.	
Hubler, George O.	Angola, Ind.
A.C. Det., Glendale, Calif.	

McDonald, J.L.	Chicago, Ill.
A.C. Det., Chicago, Ill.	
Norris, Othniel	Owansburg, Ky.
Scott Field, Ill.	
Holtz, C.J.	Clifton, N.J.
Mitchel Field, N.Y.	
Sammels, Beverly	Wichita Falls, Texas
<u>Spartan School of Aeronautics, Tulsa, Okla.</u>	
Holder, William D.	Bloomington, Ill.
Chamute Field, Rantoul, Ill.	
Zdrojewski, Leonard R.	Detroit, Mich.
Selfridge Field, Mich.	
Curdy, David J.	Livingston, Mont.
Chamute Field, Rantoul, Ill.	
Gillenwater, Okay W.	North Spring, W. Va.
Langley Field, Va.	

For the first time in the history of peacetime flying training given by the Army Air Corps, New York has taken the lead in the matter of representation of students in a Flying Cadet class. With a total of 44 native sons in the new class, she barely nosed out Texas, which is runner-up with 43, followed by California with 31 and Illinois with 30. The honor of having the highest representation of students in the various classes at the Air Corps Training Center has usually been a nip and tuck proposition between Texas and California through the years, with Illinois looming up as a strong contender in the past year or so. The other states which are represented in the new class by five or more students are Pennsylvania with 20; Oklahoma, 19; Wisconsin, 18; Indiana, 17; New Jersey, 15; Georgia, 14; Michigan, 13; Minnesota, 11; Iowa and North Carolina, 8 each; Arkansas, Colorado, Kentucky and Ohio, 8 each; Arizona, North Dakota and Utah, 7 each; Massachusetts and Nebraska, 6 each; Florida, Kansas, Missouri, Montana and West Virginia, 5 each.

Chicago, Ill., leads the cities represented by students in the new class with 14, followed by Ithaca, N.Y., and New York City with 8 each; Philadelphia, Pa., and Stillwater, Okla., with 6 each; Austin and San Antonio, Texas; Los Angeles, Calif.; Milwaukee, Wisc., and Salt Lake City, Utah, 5 each; Atlanta, Ga.; San Francisco, Calif.; St. Paul, Minn.; Brooklyn, N.Y.; Omaha, Nebr.; Dallas and Houston, Texas, 4 each; Pittsburgh, Pa.; Fayetteville, Ark.; San Diego, Calif., and Lafayette, Ind., 3 each. None of the other cities of the country is represented by more than two students.

Students who successfully complete the three months of primary training at the civilian elementary flying schools are transferred to Randolph Field, Texas, for the three months' basic course. The final three-months' advanced course is given at the Advanced Flying School at Kelly Field, Texas. Flying Cadets graduating from Kelly Field, Texas, are rated Airplane Pilots, commissioned second lieutenants in the Air Reserve, and assigned to extended active duty with Air Corps Tactical organizations. Under the present law, the maximum amount of active duty it is possible for an Air Reserve officer to obtain is seven years.

ACTIVATION OF NEW UNITS ON THE WEST COAST

Early in the morning on February 1, 1940, at March Field, Calif., the 19th Bombardment Group (Heavy), with some reluctance, gave birth to the 28th Composite Group. On that day the organization of administrative work began, and at this writing has progressed to the state where it is practically independent.

"We Guard the Frontier" seems a likely motto for the 28th Composite Group, which is bound for Alaska. This motto was suggested by Lieut. Colonel William H. Crom, who is commanding the Group. This officer's varied experience, including two years in Siberia during the World War, will be invaluable to this new Group.

"The aim of the 28th Composite Group," declares the News Letter Correspondent, "is to become the most proficient Group in the G.H.Q. Air Force, tactically and administratively, prior to its departure for Alaska."

As a part of the Air Corps Expansion Program, four new units were activated in the 1st Wing, GHQ Air Force, at March Field, Calif., on February 1, 1940. The 28th Composite Group; 36th Bombardment Squadron (Heavy); Base Headquarters and 23rd Air Base Squadron (S); and 89th Reconnaissance Squadron (M/R) were the units taking form.

In addition to Lieut. Colonel Crom, commander of the 28th Composite Group, the following officers were relieved from their present assignments and duties on February 1st and reassigned to the organizations indicated:

Captain Budd J. Peaslee, 2nd Lieut. Claude C. Sturges, Jr., Air Corps, and 1st Lieut. James A. Philpott, Air Reserve, to Hqs. and Hqs. Squadron, 28th Composite Group;

Captain William O. Eareckson, Air Corps, and 2nd Lieut. Alvin E. Hebert, Air Reserve, to the 36th Bombardment Squadron (Heavy);

Major Robin A. Day, 1st Lieut. Henry A. Sebastian and 2nd Lieut. Robert D. DeShazo, Air Corps, to Base Headquarters and 23rd Air Base Squadron (S);

Major Robert T. Cronau, 1st Lieut. Julian M. Chappell, 2nd Lieut. Clifford J. Hefflin, Air Corps, and 2nd Lieut.

Frank Norwood, Air Reserve, to the 89th Reconnaissance Squadron (M/R).

Absorbing a large part of the additional personnel from other units stationed at March Field, the new units above mentioned, with the exception of the 89th Reconnaissance Squadron, will be attached to March Field until their

departure for Alaska at some future date. The 89th Squadron will be moved to McChord Field, Washington, in the near future.

As a result of new grades and ratings recently created, 264 Staff Sergeants and 345 Sergeants were issued warrants at March Field during the early part of February. There were also several additional First Sergeant grades created.

With respect to the activation of the 89th Reconnaissance Squadron, the News Letter Correspondent states that on Monday, February 5th, the officers of that Squadron, with 1st Sergeant Ezra E. Ebel and a staff of clerks, moved into a temporary orderly room, equipped with one table and chair (borrowed), and began the important task of organizing this new Squadron, to which 231 men had been transferred from the 17th Bombardment Group at March Field and from Air Corps units at Fort Lewis, Wash. Enlisted men from the latter organizations will remain at Fort Lewis until this unit has been moved to McChord Field.

Fortunately, the 89th was attached to the 17th Bombardment Group for rations and quarters, so that there was no immediate problem concerning the messing and housing of the enlisted personnel assigned. Later, separate barracks of the temporary type were obtained in the Group area and enlisted personnel moved into them on Friday, February 9th.

With a cadre of experienced enlisted men from the various units, the Squadron Commander (Major Cronau) is rapidly whipping the 89th into fine shape. A flight section has been organized and is now anxiously awaiting the delivery of assigned aircraft from other units of the 1st Wing, GHQ Air Force, which will be soon effected.

Says the News Letter Correspondent: "Given but a little more time and necessary equipment which, due to the extraordinary demands on the supply services, is being obtained slowly, Major Cronau, ably assisted by Lieut. Chappell and Lieut. Warren, will have a combat and photographic squadron second to none in the GHQ Air Force."

Upon the activation on February 1st of Base Headquarters and 23rd Air Base Squadron (Single), the initial strength thereof was 3 officers and 239 enlisted men, among the latter being 6 Master Sergeants, 8 Technical Sergeants, 7 Staff Sergeants, 18 Sergeants, 14 Corporals, 29 Privates, 1st Class, and 157 Privates. The entire personnel, both

CLASS 40-B REPORTS AT ADVANCED SCHOOL

On February 12th, at 10:00 a.m., 214 Flying Cadets and two student officers detrucked from convoy at the Building #48 lecture room for a welcome by Col. Eugene H. Lohman, Commandant of the Air Corps Advanced Flying School, Kelly Field, Texas. At this time Major Isaiah Davies, Assistant Commandant; Captain David M. Schlatter, Director of Flying; Captain C.L. Brothers, Flight Surgeon, and Captain P.D. Coates, Secretary, addressed the new class. Sergeant Andy Byron, of the Secretary's office, kept the class busy for an hour and a half properly filling out Locator Cards and the numerous other required forms.

The Class separated at noon, 45 students reporting at Brooks Field, Texas, where they became members of the newly formed Section V.

At 1:30 p.m. the following day, February 13th, all members of Class 40-B reported to their respective Section Chiefs for flight instructions. This Class will train in Sections II, IV and V, Class 40-A being assigned to Sections I, III and V.

After a brief talk by the Section Chief, each student was introduced to his new instructor and to his new ship, the BC-1. Three hours' ground study of the BC-1 was required before the first dual hop was scheduled.

The Advanced Training School is at present operating at full swing with a total of 430 Flying Cadets and 10 student officers, plus a varying number of refresher students. Members of Class 40-A, 224 in number, are rapidly approaching their graduation date which has been set for March 23rd. At that time Class 40-C will arrive from Randolph Field, thus holding the number of students continuously in training at Kelly and Brooks Fields to well over 430. This number is almost twice the total in the largest class that ever graduated from the Air Corps Advanced Flying School.

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GENERAL KROGSTAD VISITS KELLY FIELD

Brigadier General Arnold N. Krogstad, Commander of the 2nd Wing, GHQ Air Force, recently visited Kelly Field to confer with Training Center officials on the expansion program and student progress. Under the new system each Wing Commander will be responsible for conducting the specialization courses which students formerly received at Kelly Field. Bombardment, Pursuit and Observation courses will be given each graduate of the Training Center after his arrival at his first post for duty.

The purpose of General Krogstad's visit was to coordinate the specialization instruction with the Training Center course to avoid unnecessary repetition and to insure against any undesirable omissions. Majors Ned Schramm, J.W. Monahan and Lieut. William Curry accompanied the General.

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Flying Time at Randolph Field (Continued from Page 14)

worked until 1:30 in the morning.

Although such a concentrated program will probably exist for another class of Flying Cadets - twelve more weeks - the addition of many new BT-14 training ships and the experience that the recruit crewmen will have received should allow "A" Stage to produce quite easily an even more enviable record than it has just established.

The time allotted for the present "B" Stage class (40-C) has reached the half-way mark. Practically all of the students have completed the elementary work and have received their first "check" rides with the Flight Commanders or Assistant Flight Commanders. Many students have reached the desired proficiency in advanced maneuvers, such as chandelles, lazy eights and pylon eights, and will receive the second progress check in the next few days. The first phase of night flying is almost completed, and instrument and acrobatic work is well started. Loss of flying days has continued, due to bad weather. Despite the fact that several days were lost, the work is almost abreast of the schedule. At present, the average dual instruction is 20 hours, and the average solo time 19 hours.

Class 40-D of 250 Flying Cadets reported at Randolph Field on February 14th and 15th and at once began preliminary military training.

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UNUSUAL WEATHER IN SOUTHERN TEXAS

The scribe of the 53rd School Squadron declares that it was a new Randolph Field the morning of January 22nd, when members of this organization awakened to find a nice blanket of snow covering the ground. Snow continued to fall all morning until a depth of some two inches was recorded. All available cameras seemed to be in action to record the unusual event. One "snow man" made on the lawn kept shape in some form or another until the night of January 28th, one week later.

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THE 18TH WING TRADE SCHOOL

In order to keep abreast of the Air Corps augmentation program, the 18th Wing has established and is conducting a complete trade school program for the training of enlisted men. In order to take care of the large number of men to be trained, it was necessary to launch an unprecedented training program. Present plans contemplate specialized training for approximately 1500 students by November 1, 1940.

On December 12, 1939, the Commanding General of the 18th Wing directed that Air Base Schools be established at Hickam and Wheeler Fields in order to train personnel for assignment to new units to be organized in the Hawaiian Department, and to have replacements available for personnel returning to the mainland. The project is being supervised by the Wing S-3, Lieut. Col. R. Beam, Air Corps. Each Base detailed an officer in charge of Trade Schools Instruction, Captain George R. Acheson being so detailed for Wheeler Field and Captain William A. Schulgen for Hickam Field. Additional officers and noncommissioned assistants were very carefully selected as instructors and assigned to the school as their only duty, and, since the school is a first priority project, the best fitted men were detailed as instructors, regardless of the job in their organization to which they were assigned.

The following system of trade schools was set up:

Hickam Field.

Aircraft Mechanics School in charge of 1st Lieut. Carl R. Feldman.

Aircraft Armorers School in charge of 1st Lieut. Edward Flanick.

Wheeler Field.

Photographers School in charge of Captain Minten W. Kaye.

Radio Technicians School in charge of 1st Lieut. Charles W. Haas.

Administrative and Technical Clerks School in charge of 2nd Lieut. Byron E. Hall.

Prior to opening of the Schools, it was necessary to give trade tests to all personnel of the seventh grade. This was accomplished between December 12th and 16th, with the result that the following number of men from Hickam and Wheeler Fields were selected to attend schools as indicated:

At Hickam Field:

Aircraft Mechanics Course, 23 each week

Aircraft Armorers Course, 13 each week

Until the maximum number desired is reached.

At Wheeler Field.

Photographers course, 16 each class
Radio Technicians course, 51 each class
Administrative and Technical Clerks course, 51 each class

It is contemplated that a staggered system of classes be held and after the schools are in operation for a while there will be several classes in different stages of advancement. This allows for the greatest number of enlisted men to be trained in a given time.

To provide classroom space, it was necessary at both Bases to utilize hangars, all equipment being removed and the hangars divided into small classrooms by means of temporary partitions constructed of "Panac." In addition, all other available classroom space at each station was utilized.

The selection and classification of students is considered of prime importance. The following is the general plan now being employed: All recruits are given the normal processing immediately on arrival, including approximately six weeks of basic military training. All incoming men are also given a trade test. This is the most important step in the selection and classification. The test given is that used by the Air Corps Technical School, with some additional data. A trade test card is accomplished for each man by the examining officers in a personal interview. Utmost attention to detail is given in filling out these cards. This results in placing men in the type of work they are best qualified to pursue. Similarly, Alpha Mathematical tests are given to determine each man's capabilities and educational background. This latter test makes it possible to place men in the proper phase of instruction and results in simplification of instructional procedure.

The schools are being conducted along the same lines as the Air Corps Technical Schools on the mainland, and text books in the main were furnished by those agencies.

Instructors for Trade Schools:

Hickam Field, T.H.

Aircraft Armorers:

Colonel Merriott, C.W.S.,
1st Lieut. Flanick, Air Corps,
Captain Schulgen,
Sergeants Icenogle, Graham, Meador,
Corporal Nadzeika,
Staff Sergeant Christie,
Private 1st Cl. Bibin, Privates Fields and Vasalie.

Aircraft Mechanics course:

Master Sergeants Akers, Birk,
Technical Sergeants Brechtel, Brown,
Chadron, Nielsen.

Staff Sergeants Pendleton, Nutting, Calcote, Gaudry, Flesher, Benzie, Nabor, Keahy, Welman, Mauchline;
 Sergeants Collins, Lawrence, Norum, Hilton, Cavaleri;
 Corporals Finnigan, Morgan;
 Privates Giacom, Haynes, Bradford, Garriga;
 Wheeler Field, T.H.

Photographers Course:

Captain Minton W. Kaye,
 Master Sergeant Bush,
 Technical Sergeants Jennings, Dittoe,
 Sergeant Evans.

Radio Technicians Course

Technical Sergeant Klein,
 Sergeants Mitchem, Landreth, Cummings,
 Corporals Bagby, Sparks, Hyde, Worden, Cunningham,
 Privates Southward, Sager, Nelson.

Clerical Course:

2nd Lieut. B.E. Hall, Air Reserve,
 Technical Sergeants West, Leamon,
 Staff Sergeant Dukes,
 Sergeant Gilman,
 Corporals Debacher, Brown,
 Private 1st Class Gamwell.

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PERSONAL TOUCH IN THE ARMY

Under the title "This is the Life," Marsh Maslin wrote the following in the DAILY COLUMN of a recent issue of the San Francisco Call-Bulletin:

"A prominent gentleman of our town has a son who is a private in the army air corps, at present detailed for instruction at Lowry Field, Denver. The boy writes regularly to his parents, but the other day they suddenly realized they had not heard from him for nine or ten days and, as parents will, they began to worry. So the father wired for information and received word that their son was in a hospital for treatment. They worried even more then and the father secured from the Presidio the information that the head of the Lowry Hospital where his son was staying is Colonel C.D. Buck.

He sent an airmail letter immediately to Dr. Buck, explaining that the boy, a private in the army, was in Lowry and the boy's mother was worried.

In exactly forty-eight hours a long air mail letter from Colonel Buck arrived. He explained that the boy had had an abscess in the back of his throat, that he had come through an operation well, and was resting easily. He closed with a paragraph to the boy's mother telling her not to worry, that her boy was all right and that barring unforeseen complications he would be out of the hospital soon.

"And the boy's father asks this ques-

tion: 'Is there any other army in the world in which the head of a large government hospital would write personally to the mother of a private soldier to relieve her worry about her son?'

I can't think of any. Can you?"

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EDUCATIONAL PROGRAM FOR HAMILTON SOLDIERS

Hamilton Field has a New Educational Program. Under the direction of Colonel John F. Curry, Base Commander, and Major Raymond Morrison, E. & R. Officer, the State Department of Education has established a general program of instruction for the enlisted men at Hamilton Field. Since early in January, eight classes have been started, with an enrollment of more than 250 men under seven teachers. At San Rafael High School four classes are conducted in Basic Mathematics and English. At Marin Junior College there is a class in Elementary Electricity, and at Tamalpais High School a class in Machine Shop Practice.

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HAMILTON FIELD FURNISHES MANY LECTURERS

Officers of Hamilton Field, Calif., are being called upon more and more frequently to make speeches and talks before civic bodies and other institutions of the kind in the San Francisco Bay area. Their reputation is spreading rapidly beyond the Bay Area, up and down the Coast and as far east as Salt Lake City. Recently, one officer made an address in Portland, Oregon, while another was speaking in Salt Lake City. Recent speeches by officers from the Air Base were as follows:

On February 1st, Captain Reuben C. Hood addressed the San Rafael Lions Club on the subject of "Hamilton Field and its place in the West Coast Defense."

On February 7th, Lieut. Colonel Ralph Royce, Commanding Officer of the 7th Bombardment Group (H), addressed the Portland, Oregon, Post of the Society of Military Engineers on the "Air Arm and the Army Engineer."

On February 10th, Colonel Royce also addressed the Richmond, California, Rotary Club.

On Sunday morning, February 11th, Captain Hood also addressed a joint meeting of several local chapters of the Native Daughters of the Golden West at a meeting in San Francisco on the subject of National Defense.

On February 13th, Lieut. Charles L. Hamilton, Air Reserve, participated in a panel discussion with officers of the Navy and Marine Corps, at a meeting of the Hamilton Field Legion Auxiliary at

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Vallejo.

On February 23rd, Captain Stanley K. Robinson went by air to Salt Lake City to address the Chamber of Commerce of that city. Captain Robinson's subject was "The GHQ Air Force."

In addition to the officers listed, Corporal R.D. Boren, of the Engineering Department, made a fine address before the San Rafael Chapter of the International Association of Machinists on February 8th. Corporal Boren, as a master machinist, addressed the group on the machinist's place in Air Force maintenance.

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SURVEY BY AIR OF DUCK POPULATION

Four members of the United States Biological Survey recently accompanied Lowry Field officers on a trip in a B-18A airplane over Colorado lakes and rivers for the purpose of counting ducks in this region. This survey is conducted annually by the above-named governmental agency and is considered a highly important part of the Conservation Program.

On sighting resting waterfowl, the plane flies directly overhead at an altitude of about 1000 feet, when the birds are counted by scanning and estimation. The plane then returns at a much lower altitude and flushes the flock. As the birds rise from the water, the biologists are able to estimate the numbers of each species by the coloring and other characteristics. This is a visual count and is usually supplemented by a photographic count. Vertical aerial photographs of resting flocks are placed under a microscope and the ducks counted. Visual estimates and photographic estimates seldom vary, but are valuable as checks.

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NEW EDUCATIONAL EQUIPMENT AT LOWRY FIELD

An interesting and efficient innovation in educational equipment at the Denver Branch of the Air Corps Technical School, Lowry Field, Colo., is the RCA combination public address and communication system recently installed in the Clerical School. By means of this installation, the Director of the School can address each of the nine classrooms or all at once, thus removing the necessity of assembling the students. The two-way communication makes it possible for the instructors to be in communication with the office at any time. "Other departments are casting envious eyes at the Clerical School," declares the Lowry Field Correspondent.

ANNIVERSARY OF DENVER BRANCH OF A.C.T.S.

February 28, 1940, marks the second anniversary of the opening of the Denver Branch of the Air Corps Technical School, Lowry Field, Denver, Colo. During two years of operation, Lowry Field has managed to adhere to a regular schedule, even though meeting obstacles created by construction and expansion.

Up to February 28, 1940, a total of 46 officers graduated from the Denver Branch School, including officers from foreign countries.

Of the 1171 enlisted men graduating from this School, 590 members of the Regular Army and 12 from the National Guard, foreign countries, etc., attended the School of Armament; 280 members of the regular army and 12 others, the School of Photography, and 275 Regular Army enlisted men the Clerical School.

First commanded by Colonel Junius W. Jones, the School has been under the command of Colonel Jacob Rudolph since July 1, 1938. A steady flow of men trained to become aerial photographers, aircraft armorers, bomb sight maintenance men and clerks have left this branch of the Air Corps Technical School to take their places in Air Corps organizations throughout the United States and the possessions.

There have been difficulties incident to the occupation of any new post that have tended to hamper class work, but without exception the men have cooperated to the fullest degree. Inconveniences and temporary discomforts have been cheerfully ignored, and morale has remained at a high level.

Many temporary structures were recently completed at Lowry Field. During February, the School of Photography moved into a new classroom and laboratory that is ideally appointed for efficiency and space.

A new gymnasium, dedicated when Col. Rudolph was host to the Children's Christmas Party there on December 23rd, is now being extensively used by the personnel of the post. Several official basketball games have been played there, and twice a month the A. and R. Department gives a dance for post personnel and their guests. A complete line of athletic equipment is available for various sports.

"Lowry Field," says the News Letter Correspondent, "begins its third year with a feeling of satisfactory accomplishment in the past and with full confidence in the future under the guidance and direction of Colonel Jacob H. Rudolph."

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CAPTAIN FERGUSON 'DISCOVERS' ISLAND OF KAHOO LAWE

By the Hickam Field Correspondent

2.T.C.A

The "Lady Jo," a 40-foot schooner, is owned and skippered by Mr. Sam Emmes, of Honolulu, and which plied the waters of the Pacific in the last International Pacific Yacht Race, between Treasure Island and Honolulu, recently sailed from Honolulu for Kahoolawe, an island of the Hawaiian Group inhabited by only three persons and devoid of up-to-date facilities, such as automobiles, telephones, radios and modern homes. The trip was not undertaken for the purpose of discovering this island, because it has been known to exist even before Captain James Cook in 1778 pulled a "Christopher Columbus" on the Hawaiians and their peaceful group of islands, then known as the Sandwich Islands. Aboard the "Lady Jo" were military personnel from Hickam Field, namely, Captain Homer W. Ferguson, the Base Operations Officer, and Privates Clifford H. Decker, Portan Wagner, Weldon C. Burlison and Furman C. Martin, all members of the Base Headquarters and 17th Air Base Squadron.

The Island of Kahoolawe was sighted on the third day out, but the trip, which was marked down in the log book as uneventful, did not end there, for there were none of the 20th century docks to tie up to, and a complete trip around the island was necessary in order to find a suitable cove wherein to anchor the vessel. One was found, appropriately named "Smugglers' Cove," and a rowboat was then used to get to shore.

At the very outset the expedition faced a difficult situation for, in order to reach the plateau, a 400-foot cliff had to be scaled. After considerable hardship, this obstacle was overcome; and Captain Ferguson led his party in search of material and supplies which had been dropped by parachutes from airplanes of the 17th Air Base Squadron and the 5th Bombardment Group, Hickam Field.

After a short search, the supplies were discovered. Ten condemned parachutes were used in dropping the supplies, which consisted of 1600 pounds of lime; one rubber-tired dolly for transporting the supplies to the site utilized for the construction work; 40 condemned rubber rafts; a keg of large spikes, which were used to stake down the rubber rafts; picks; shovels and a large sledge hammer. All supplies landed safely and free of injury from their first parachute jump.

Then the work began. Two principal targets were constructed, one of lime

which had a bullseye and a 200-foot circle, and one of the same size, constructed by nailing down the rubber rafts with the yellow side up, to the extremely hard lava surface. Another target, oblong in shape, was constructed of lime. Two days were required to complete the construction of these targets.

With pomp and ceremony conspicuous by its absence here in the land known the world over for its hospitality, the "Lady Jo" weighed anchor and sailed for her home port. Late Saturday afternoon, January 13th, after a trip of two days and nights, she slipped quietly in and tied up at her berth in Kewalo Basin. After a fond "Aloha, aie mahalo no ka maikai kalepa" to Mr. Emmes and "Lady Jo," Captain Ferguson again led his expedition back to Hickam Field.

During the trip and while anchored in the cove at Kahoolawe, the party ate and slept aboard the "Lady Jo." Like any other worthy sea-going vessel, she is equipped with an up-to-date galley and spacious sleeping quarters for about nine persons.

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SUCCESSFUL FLASHLIGHT FLIGHT

Aerial photography at night is conceded to be of vast importance in military operations and, in consequence thereof, it receives serious attention at the School of Photography at the Denver Branch of the Air Corps Technical School, Lowry Field, Colo. On the latest night photographic mission, six flashlight pictures of terrain near Lowry Field were made from a B-18A airplane, which, carrying flashlight bombs and a Fairchild K-12 night camera, was piloted by Captain Paul T. Cullen, Assistant Director of the School of Photography, and Lieut. David W. Hutchinson, also of the School. Accompanying them were Lieuts. Cirilo Halley-Harris, of Chile, and Roberto Gibert, of Argentina. The South American officers are enrolled in the School of Photography.

Flights of this nature attract considerable local attention due to the intense light generated over an area of several square miles. The mission was successfully accomplished, and the party returned to Lowry Field after making six photographs of Bombing Range terrain.

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Captain Thomas M. Lowe, Air Corps, who recently graduated from the Command and General Staff School, was assigned to the Air Corps Board, Maxwell Field, Ala.

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RADIO BROADCAST OF AIR CORPS SONG

The U.S. Navy Band will play the official Air Corps Song, "The Army Air Corps," during its National Broadcast from Washington between 2:30 and 3:00 p.m., Eastern Standard Time, on Monday, March 18, 1940

Due to a series of unforeseen circumstances, which happen now and then in the best laid plans, the broadcast of this song on February 19th, as announced in the previous issue of the News Letter, did not materialize.

The half hour program on March 18th, which will include the Air Corps Song, will be broadcast over the following stations:

WJZ - New York	KTHS - Hot Spgs., Ark.
WBZ - Boston	WDSU - N. Orleans, La.
WBZA - Springfield, Mass.	WJBO - Baton Rouge, La.
WEAN - Providence, R.I.	KVOO - Tulsa, Okla.
WICC - Bridgeport, Conn.	KARK - Little Rock, Ark.
WFIL - Philadelphia, Pa.	WCAL - Lancaster, Pa.
WMAL - Washington, D.C.	WKBO - Harrisburg, Pa.
WSYR - Syracuse, N.Y.	WEAR - Norfolk, Va.
WEER - Buffalo, N.Y.	WBLK - Clarksburg, W. Va.
KDKA - Pittsburgh, Pa.	WGKV - Charleston, W. Va.
WHK - Cleveland, Ohio	WOOL - Columbus, Ohio
WXYZ - Detroit, Mich.	WHIZ - Zanesville, Ohio
WOWO - Fort Wayne, Ind.	WING - Dayton, Ohio
WENR - Chicago, Ill.	WOOD - Gr. Rapids, Mich.
KWK - St. Louis, Mo.	WBOW - Terre Haute, Ind.
WMT - Cedar Rapids, Iowa.	WGED - Evansville, Ind.
WTCN - Minneapolis, Minn.	WTBA - Madison, Wis.
ESD - Des Moines, Iowa	WFDF - Flint, Mich.
WREN - Kansas City, Kans.	WBCM - Bay City, Mich.
WRD - Richmond, Va.	KMA - Shenandoah, Iowa
WNBC - Hartford, Conn.	KSCJ - Sioux City, Iowa
WABY - Albany, N.Y.	KOWH - Omaha, Nebr.
WMFF - Plattsburgh, N.Y.	WFAI - Cincinnati, O.
WJTN - Jamestown, N.Y.	WLBZ - Bangor, Me.
WLEU - Erie, Pa.	WRDO - Augusta, Me.
WJIM - Lansing, Mich.	WFEA - Manchester, N.H.
WIBM - Jackson, Mich.	WERE - Wilkes-Barre, Pa.
WELL - Battle Creek, Mich.	WSAN - Allentown, Pa.
WEBC - Duluth, Minn.	WORK - York, Pa.
KYFM - Mankato, Minn.	KGNC - Amarillo, Texas
KROC - Rochester, N.Y.	KTOK - Oklahoma City, Okla.
KFAM - St. Cloud, Minn.	WOAI - S. Antonio, Texas
KFOO - Sioux Falls, S.D.	KGKO - Ft. Worth, Texas
KAMF - Wichita, Kans.	KXYZ - Houston, Texas
WPTF - Raleigh, N.C.	KFDM - Beaumont, Texas
WFOC - Charlotte, N.C.	WDAY - Fargo, N.D.
WFBC - Greenville, S.C.	KFYR - Bismarck, N.D.
WIFE - Asheville, N.C.	KGO - San Francisco, Calif.
WIS - Columbia, S.C.	KECA - Los Angeles, Calif.
WOLF - Florence, S.C.	KTMF - Santa Barbara, Calif.
WTMA - Charleston, S.C.	KFSO - San Diego, Calif.
WJAX - Jacksonville, Fla.	KEX - Portland, Ore.
WFLA - Tampa, Fla.	KFBK - Sacramento, Calif.
WLAK - Lakeland, Fla.	KWG - Stockton, Calif.
WIOD - Miami, Fla.	KERN - Bakersfield, Calif.
WAVE - Louisville, Ky.	KJR - Seattle, Wash.
WSM - Nashville, Tenn.	KGA - Spokane, Wash.
WMPS - Memphis, Tenn.	
WSGN - Birmingham, Ala.	
WAGA - Atlanta, Ga.	

CHENEY AWARD TO GO TO LIEUT. H.L. NEELY

The Acting Secretary of War, the Hon. Louis Johnson, announced on March 1st that First Lieutenant Harold L. Neely, Air Corps pilot at Lowry Field, Denver, Colo., has been selected to receive the Cheney Award for the outstanding act of valor in connection with aircraft in 1939.

The act of heroism which prompted the selection of Lieut. Neely to receive this honor occurred near Hill City, Kansas, on December 18, 1939. Lieut. Neely was piloting an Army Bomber at an altitude of 11,000 feet high above a thick dust storm which entirely obscured the earth below, when both engines stopped. After attempting in vain to start his motors, he called to his three passengers through the airplane interphone, instructing them to jump. As the airplane descended, he saw two parachutes open and disappear in the thickening haze. The third passenger also jumped, but from the closed-in pilot compartment it was not possible for him to determine whether the last man had cleared the disabled Bomber. Convinced that if he abandoned the plane an innocent victim might ride to his death, Lieut. Neely decided to take his chances on a forced landing. Flying blind through the surging dust storm, he descended to an altitude of 500 feet before the ground became visible. Miraculously, Lieut. Neely escaped injury as the big plane skidded to a stop in a 40-mile-an-hour wind.

"This heroic act demonstrated extreme courage and self-sacrifice far beyond the call of duty," Colonel Johnson stated in announcing Lieut. Neely's selection.

The Cheney Award, presented annually for the outstanding act of valor, extreme fortitude or self-sacrifice on the part of military personnel in connection with aircraft, was established 13 years ago in honor of 1st Lieut. William H. Cheney, Air Corps, who was killed in an air collision at Foggia, Italy, in 1918. The donors are Lieut. Cheney's mother, Mrs. Mary L.C. Scofield, of Peterboro, N.H., and his sister, Mrs. Ruth Cheney Streeter, of Morristown, N.J.

Thus far, twelve individuals have been honored by the Cheney Award. Master Sergeant Harry A. Chapman, of the 19th Airship Company, Langley Field, Va., first received it in recognition of his heroism, presence of mind and extreme fortitude during the great catastrophe on February 21, 1922, when the airship ROMA crashed and burned. Sergeant Chapman received the award in 1927, and in subsequent years the honor has gone to Captain Uzal G. Ent, Air Corps, for 1928; to Captain William A. Matheny, Air Corps, for 1929; to 1st Lt. Robert D. Moor (posthumously) and to Private John B. Smith, Air Corps, for 1931; to Private Arden M. Farley, Air Corps, for 1932; jointly to the late Lieut. W.L. Bogen and to Staff Sgt. Doy D. Dodd and Sergeant Thomas J. Rogers, for 1933; to the late 1st Lieut. Robert K. Giovannoli for 1935, and to Major Frederick D. Lynch and Staff Sergeant Joseph L. Murray, Air Corps, for 1936.

ACTIVATION OF NEW AIR CORPS UNITS

31st Pursuit Group

At 11:00 a.m., February 1, 1940, at Selfridge Field, Mich., the 94th Pursuit Squadron, 1st Pursuit Group, GHQ Air Force, augmented by some 120 attached enlisted men, formally became the 31st Pursuit Group, GHQ Air Force.

"To those of us who had originally belonged to the 94th Squadron the occasion was fraught with mixed emotions, a certain sadness at giving up our status as members of the Air Corps outstanding squadron together with its tradition and background," says the News Letter Correspondent, adding "and a certain enthusiasm at the prospect of our own organization, without tradition or history, the making of which was to be our own task. The day itself, if taken for an omen, indicates that much is in store for us, the ceremony held on the snow-covered main highway consisting of a formal muster of the new organizations and an official presentation of the new unit to the Base Commander, who in turn briefly outlined our task, wished the organization well and turned it over to Major Harold H. George as Group Commander. A light snow, coupled with a chill Michigan wind, kept spectators to a minimum, but the 'Gentlemen of the Press' and their attendant photographers were much in evidence.

Immediately after the presentation ceremony, the Group Commander spoke briefly and, after returning the squadrons to their respective commanders, a formal presentation of the noncommissioned officers' warrants was held. To the enlisted men of all commands who had waited for long periods of time anxiously watching for a vacancy in their organizations to break the slow promotion, the day held much, some 105 promotions resulting for the new Group.

"Our squadron commanders, Captain Paul B. Wurtsmith, of the Headquarters Squadron; Captain Allen R. Springer, of the 39th Pursuit Squadron, and Captain John F. Egan, of the 40th Pursuit Squadron, have entered on their new jobs with an enthusiasm seldom seen in new units. Every officer and every man in the Group is determined to make it the best command in the Air Corps. Our only regret is that the third tactical squadron of the 31st Group, the 41st Pursuit Squadron, currently at Bolling Field, cannot be with us fully to share our work.

SMA Communications School has been started with a view to training Radio Mechanics and Operators to fill our quota, shortly to be followed by a course for clerks. Lieut. Franklin H. MacNaughton, assisted by Master Serge-

ant M.E. Hay, operate the school in a business like fashion, as indicated by recent results of mathematics examinations."

40th Pursuit Squadron

On the first day of February, the 40th Pursuit Squadron of the new 31st Pursuit Group, GHQ Air Force, was formed at a very impressive ceremony at which the command of the 40th was assigned to Captain John F. Egan. The new 40th is comprised of men transferred from various squadrons of the First Pursuit Group. Most of these men received promotions in the new Squadron.

Officers and enlisted personnel alike are striving to bring the 40th Pursuit Squadron up to the highest standards of the United States Air Corps.

On the tenth of February, we were inspected by our new Group Commander, Major George. This was his first hangar inspection, and he expressed himself as being well pleased with the condition of both personnel and equipment.

39th Pursuit Squadron

The 39th Pursuit Squadron, GHQ Air Force, commanded by Captain Allen R. Springer, was activated February 1, 1940, with a very impressive ceremony.

Although we are only three weeks in our infancy, everyone is striving very hard to make the 39th one of the best squadrons in the Air Corps. We are handicapped by lack of equipment, but are moving ahead steadily. It is rumored we are to receive our quota of new planes very soon, and with new pilots who will report sometime in March, our Flight Commanders are keeping their fingers crossed.

Our 41st Pursuit Squadron, activated at Bolling Field, D.C., on February 1, 1940, is making progress, and we salute them. All are hoping the Group will be in our new home, Mitchel Field, N.Y., in the near future.

27th Bombardment Group (Light)

Hrs. and Hrs. Squadron: This organization steps forward with pride since February 1, 1940, the day it was activated. The officer personnel was derived from the 3rd Bombardment Group (L), GHQ Air Force, with the exception of Col. C.L. Tinker, the Group Commander, formerly from Base Hq. and 6th Air Base Squadron (Double) and Major G.A. McHenry, who is at present at Fort Benning, Ga., participating in maneuvers, and formerly from the Command and General Staff School at Ft. Leavenworth, Kansas. The enlisted personnel was derived from almost every Air Corps Squadron at Barksdale Field. The Squadron feels highly honored in being awarded the able and

highly efficient Commanding Officer, Captain John F. Guillett, formerly Commanding Officer of the 8th Bombardment Squadron (L), which won the Harmon Efficiency Trophy last year.

15th Bombardment Squadron (L): The 15th is rapidly assuming the normal functioning of a Squadron, having established its administration center and barracks in the recently built recruit area. Many promotions are coming through to fill the quota prescribed, 22 Privates being given first class ratings, six Sergeants being promoted to Staff Sergeant, eight Corporals to Sergeant, and 17 privates to Corporal since February 1st, when the Squadron was formed.

17th Bombardment Squadron (L): The first three weeks of this Squadron's operation has shown a determination for it to be second to none in efficiency and high standard of morale. All members have pitched in and developed their departments to a point where they are running smoothly.

16th Bombardment Squadron: After long waiting, approximately one-half of the 13th Bombardment Squadron (L) picked up their personal belongings and moved to the new temporary barracks, activating the new 16th Bombardment Squadron (L), GHQ Air Force, in accordance with orders from the War Department.

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ACTIVITIES OF 27th RECONNAISSANCE SQDN.

The 27th Reconnaissance Squadron, stationed at Borinquen Field, Puerto Rico, after two months of operation, is becoming more acclimated to its surroundings. With all missions running per schedule, because of excellent weather conditions, training of Squadron personnel is progressing rapidly.

During the last two weeks of January the 27th took part in a maneuver which included all the ground forces of the Puerto Rican Department and some Naval units. The problems were very interesting and all concerned gained very valuable experience.

On February 10th, General George Marshall, Chief of Staff, arrived from Maracaibo in a B-17B "Flying Fortress," piloted by Major Harold H. George, Commanding Officer of the 2nd Bombardment Group, Langley Field, Va. After an inspection of all the units in the Department, the General left on February 12th for Miami, Fla., escorted by six B-18A's?

Aerial Gunnery was in progress for several weeks, with two B-18A's towing targets and two of them firing on same. From 4 to 6 men have been qualified as expert aerial gunners every mission.

AIR CORPS OFFICERS GRADUATE FROM THE NAVIGATION SCHOOL IN HAWAII.

Ten brand new celestial and two dead reckoning navigators, the first in a series of classes set up as a part of the training program of the 5th Bombardment Group, Hickam Field, T.H., were handed their certificates of graduation by the 18th Wing Commander, Brigadier General Walter H. Frank, before assembled officers at that field on January 13, 1940.

Prior to awarding the diplomas, General Frank stressed the value of accurate and dependable air navigation in this Department, pointing out that the present standards of navigation will soon be outmoded by the requirements of even faster airplanes of much greater range than the present B-18 type Bomber. "In the words of the well known Charles Winninger, of 'Show Boat' fame; 'this is only the beginning folks, only the beginning,'" he said.

"This Wing is faced with a navigation problem not encountered by any other unit in the Air Force," General Frank added, "in that our flying is totally over water and devoid of landmarks and the usual aids to navigation available to unit operating over the continental United States, and we are very fortunate to have the facilities and the instructors that we have, Major Albert F. Hegenberger, Air Corps, known to all of you for his flight across the Pacific to this Island in 1927, and Lieuts. Hugh F. McCafferty and Paul Ashworth, Air Corps. If I had my pick of all the officers of the Air Corps for navigation instructors, I doubt that I could find any better qualified."

Colonel Walter F. Kraus, Air Corps, Commanding Officer of the 5th Bombardment Group, Hickam Field, expressed his gratification at the achievements of the class as well as those of the instructors, pointing out that the accomplishment of some 300 hours of class room and flying problems, to say nothing of the time spent in preparation and "home work," were necessary in order that the tactical effectiveness of the Bombardment units in time of war should not be wasted, due to the inability of the Bombers to find their targets.

Major Albert F. Hegenberger, 5th Bombardment Group Executive Officer, under whose supervision the class was conducted, spoke briefly and introduced the principal speakers. The Invocation and Benediction were pronounced by Chaplain James C. Bean.

Members of the graduating class were Captain Ralph Rhudy and 2nd Lieut. James T. Posey, 23rd Bombardment Squadron (M); 1st Lieut. Walter C. Sweeny, Jr., 2nd

Lieuts. William J. Cain, Jr. and Paul S. Enrick, 31st Bombardment Squadron (M); 2nd Lieuts. Nils O. Ohman and Harry E. Hammond, 50th Reconnaissance Squadron (M/R); 2nd Lieuts. Render D. Denson and Raymond P. Salzarulo, 4th Reconnaissance Squadron (M/R); 2nd Lieuts. Robert S. Quinn and Weldon H. Smith, 72nd Bombardment Squadron (M).
 Second Lieuts. Ronald D. Hubbard, 72d Bombardment Squadron, and Ira F. Wintermute, 50th Reconnaissance Squadron; both of the Air Reserve, graduated as Dead Reckoning Navigators.

AN INCREDIBLE AIR BUMP

A bandaged head and nine stitches in his scalp is proof of the contention of Technical Sergeant James H. McAdams, of Wheeler Field, T.H., that he experienced one of the most terrific air bumps ever encountered.

Recently the Wheeler Field B-18, with Lieut. J.S. Holtoner, pilot, and Lieut. W.S. Steele, co-pilot, took off on a flight to Kauai, the island on the northwest end of the Hawaiian Group. Instead of the usual northeast trade wind, a strong Kona wind (anything other than a NE wind is called "Kona") was blowing from the southwest. Upon arriving over the northeast edge (leeward side) of Kauai at a place called Kapaa, a downdraft was encountered that really made the "bottom drop out." The pilot and co-pilot were held in place by their safety belts, but the passengers were bounced around like ping pong balls.

When all was calm after passing the downdraft, Lieut. Holtoner looked around to see how his passengers had fared. The first one he saw was Lieut. Opeil, who had been sitting in the navigator's seat. That officer was climbing out of the hatch behind the co-pilot's seat (the passage-way down to the bombardier's compartment) and was looking languidly at a rip in his trousers. Next he saw the crew chief picking himself off the floor and the radio operator, who was sprawled on the floor, trying to untangle himself from the cords of his headset and microphone. At about this time one of the passengers in the rear came forward and said that Sergeant McAdams was bleeding quite badly from a head wound.

The pilot "poured on the coal" and headed for Burns Field on Kauai. After landing, Sgt. McAdams was rushed in a reconnaissance car to a doctor, who found it necessary to use nine stitches to repair the scalp. There were no serious complications, so after being patched up, Sgt. McAdams returned to the field and flew back to Wheeler Field in the B-18.

GRADUATIONS FROM A.C. TECHNICAL SCHOOL

On February 2, 1940, 75 students graduated from the Chanute Field Branch of the Air Corps Technical School, from the stations and courses as indicated below, viz:

Name of Field	A.M.	A.M.W.	A.W.
Barksdale	2	3	1
Bolling	-	1	-
Chanute	13	7	-
Duncan	2	-	-
Fairfield	1	-	-
Fort Bragg	-	-	1
Fort Lewis	-	-	1
Fort Riley	-	1	1
Hamilton	1	-	1
Harrison	1	-	-
Kelly	3	-	-
Langley	7	3	2
Lowry	1	1	1
March	3	-	-
Middletown A.D.	2	-	-
Mitchel	3	1	1
Moffett	1	-	-
Patterson	1	-	-
Randolph	1	-	-
Sacramento A.D.	1	-	-
Scott	-	1	-
Selfridge	2	-	2
Sherman	1	-	-
Total	46	18	11

On February 9, 1940, a total of 119 students graduated from six different courses of the Chanute Field Branch of the Air Corps Technical School from the courses and stations as indicated below:

Field	RR & O	IS	CS	PS	ES	PR
Barksdale	3	2	1	1	1	1
Bolling	-	-	2	1	2	4
Chanute	3	4	2	2	3	1
Duncan	-	1	-	1	1	1
Hamilton	2	1	-	1	1	1
Kelly	-	-	1	2	2	-
Langley	16	3	1	2	2	2
Lowry	-	-	-	2	-	-
March	4	-	-	1	1	2
Maxwell	-	-	-	-	-	3
Middletown	-	-	1	-	1	-
Mitchel	8	2	-	-	-	1
Moffett	1	1	1	-	1	-
O'futt	-	1	1	1	-	-
Pope	-	1	-	-	1	-
Post	-	-	-	-	-	1
Patterson	1	-	-	-	-	-
Randolph	2	-	-	-	-	-
Selfridge	-	1	1	1	1	1
Total	40	17	11	15	17	18

Key: RR & O - Radio Repairer & Operator
 I.S. - Instrument Specialist
 C.S. - Carburetor Specialist
 P.S. - Propeller Specialist
 E.S. - Electrical Specialist
 P.R. - Parachute Rigger
 A.M. - Airplane Mechanic
 A.M.W. - Aircraft Metal Worker
 A.W. - Aircraft Welder

THE WEST COAST MANEUVERS

19th Bombardment Group: With anticipation running high throughout the organization, the Hqrs. and Hqrs. Squadron left for the Army-Navy Maneuvers held along the Pacific Coast. Several days were spent arranging and packing equipment before leaving for Sacramento, Calif., its base during the maneuvers, and to which point the personnel were flown in the "Flying Fortresses" and Transport planes. Arriving January 13th, they managed to get themselves "dug in" by the following Monday, the official opening of the war games. At that time, however, it started to rain, and as time went on the weather became worse and grounded all the planes at Sacramento.

17th Bombardment Group: In the 1st Wing Maneuvers, Jan. 14th to 26th, Hqrs. and Hqrs. Squadron and the 34th Bomb. Squadron were stationed at Fresno, Calif., and the 73rd and 95th Squadrons at Bakersfield, Calif. Weather conditions held operations to a minimum, but quite a bit of experience was gained in ascending and descending through actual overcasts.

One of the most interesting phases of the maneuvers involved the transportation of an Infantry battalion with full field equipment from Hamilton Field to March Field and return. Bad weather enroute forced all but one airplane to land at Bakersfield. The planes proceeded to March Field the next day and returned to Hamilton Field two days later.

73rd Bombardment Squadron: On January 14th, the Squadron went into oblivion at Kern County Airport, Bakersfield, Calif., on the occasion of the joint Army and Navy maneuvers. The 95th Bombardment Squadron accompanied the 73rd in their exile, due to the fact that a typical California dew, knee deep, rendered the Visalia Airport useless.

"For two weeks these sterling squadrons lolled in their tents, dreaming of the sun that somewhere must be shining," reports the News Letter Correspondent. "Cut off from the outside world, the ingenuity of the emigres knew no bounds. In an attempt to establish reliable communication with civilization, a serious endeavor was made to train bull-frogs as message carriers. This might have succeeded had the ceiling been higher - as it was, the frogs refused to leap further than six inches per hop, causing the communication system to bog down like a teletype during a display of the Northern Lights. Despite the aerial inactivity, invaluable training was received. For the first time the Engineering Section was enabled to accumulate accurate data relative to the deterioration of airplanes not in use. The Operations Section completely mastered the art of submitting negative Operations Reports, consisting entirely of the words 'No Change,' 'None' and 'Nothing.'"

34th Bombardment Squadron (M): The Squadron swung back to normal routine duties after the two-week period in the field. Although very little flying was possible during the actual maneuvers, due to the weather, the individual departments within this unit received fine experience under very adverse conditions. The Supply, Operations, Intelligence, Technical

Supply, Engineering, Armament, Mess, etc., Sections all showed their fine organization and good training by keeping everything in good order and working smoothly. The Flight Section worked long hours transporting cargo to and from Fresno under very adverse weather conditions. On several occasions it was necessary to take off and let down through a thick overcast. These flights were run off without a hitch. The transportation of ground troops from and to Hamilton Field provided the pilots with many new experiences, and evidence of their fine training was indicated by their exceptional showing of air discipline. While awaiting orders at Bakersfield, the entire command stuck together despite decreasing visibility and weather conditions growing worse. Many fine compliments were paid to the Air Corps as a whole and the individual members of the flight by the officers and men of the 69th Coast Artillery and other observing officers who participated in the experimental flight. "It is felt," says the News Letter Correspondent, "that the Thunderbirds, along with the other 1st Wing units participating in the maneuvers, made a showing that the Air Corps may be well proud of."

95th Bombardment Squadron: This organization participated in the recent transportation of 420 members of the 15th Infantry of Fort Lewis, Wash., during the First Wing Exercises on the Pacific Coast. The 95th, using six B-18 B-18's, was ordered from the temporary base at Kern County Airport, Bakersfield, Calif., on Monday afternoon. After joining the rest of the 17th Bombardment Group at a predetermined rendezvous, the formation of 21 planes proceeded on to Hamilton Field, Calif. The orders were to load members of ground troops, together with full field equipment, and proceed to March Field, a distance of 400 miles. An unusual order it was, but one which proved well within reason to fulfill, according to the News Letter Correspondent.

On Tuesday morning, in a light rain but very turbulent air, the 17th Bomb. Group took off individually at close interval, joined formation and set a course for March Field, the objective. Ten of the ground troops were in each plane as the Group winged its way southward. At Bakersfield the ceiling began to drop and the light rain turned to a steady drizzle. Visibility was poor. With a high range of mountains to the south to cross and visibility growing steadily worse, the formation circled Bakersfield, where the 95th and 73rd Squadrons landed with their live cargo and proceeded to bivouac for the night. The 34th Squadron turned and proceeded to its base at Fresno. Conditions growing worse to the north, orders were received enroute to return to Bakersfield. The Bakersfield Fair Grounds became an army camp within a remarkable short period. The ease of handling the problem of housing and feeding some 420 ground troops was more than an achievement - it was a salute to army efficiency. The flight to March Field was resumed at the first opportunity. As a commentary on the Bombers' efficiency, most of the ground troops evinced a strong desire to transfer to the Air Corps.

AIR CORPS NEWS LETTER



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The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

SPECTROGRAPHIC ANALYSIS

By C. B. Pittinger, Jr.
Assistant Chemist, Materiel Division

Among the numerous inventions of scientists, few have attained the importance of the spectroscope in both pure and applied science, where it is constantly gaining in favor as an analytical tool. A modified and improved form of the spectroscope is used daily in the Materials Laboratory of the Materiel Division at Wright Field, Ohio.

Essentially, the spectroscope is an instrument for analyzing light by resolving it into its component parts. Much in the same way that the beveled edge of a piece of glass breaks up sunlight into the colors of the rainbow, so does the spectroscope break up any light into its component colors, and into many more subdivisions.

The principal part of the spectroscope is the triangular prism usually made of glass or quartz. Light enters the instrument through a slit at the end of a tube, falls upon one of the faces of the prism, which bends it, and emerges from another face of the prism as a series of lines of light, which are really images of the slit through which the light entered the instrument. The narrower the slit width, the sharper the separation of the lines from one another. Each of the lines of light in a series has a slightly different color (wave length) from the lines on either side of it, and beginning at one end of the spectrum (as the entire series of slit images is called) we find if white light entered the slit of the spectroscope, all the colors from violet through blue, green, yellow, orange, to red.

Although the spectrum of white light may appear to stop at one end in the violet region and at the other end in the red region, it actually extends further in each direction. Beyond the violet is the ultra-violet; beyond the red is the infra-red. Both of these regions along with the visible region are of great significance to science. Only one of them, however, the ultra-violet, will be discussed further, since it is from this region that most of the information from spectrum analy-

sis as applied at Wright Field is obtained.

The value of the spectroscope as a practical laboratory tool, instead of being a mere scientific curiosity, lies in the fact that the light given off from the glowing vapor of each of the elements from which all matter is formed, has an unique spectrum composed of light of very definite wave length (colors), and each of the lines in the spectrum always appears in the same position relative to the other lines. The spectrum patterns of no two elements are alike; each is as distinctly unique as one's own fingerprints. Thus, the spectrum of aluminum is different from that of zinc which is different from that of iron, etc.

If we burn a piece of metal in an electric arc, and allow the light to pass through the spectroscope, we obtain a spectrum. If the spectrum contains the same light pattern as that obtained by burning zinc, then we are certain that zinc is present.

Interspersed between the zinc lines may be lines of other elements, and if such is the case then these other elements are also present with the zinc in the flame.

It was mentioned earlier that the ultra-violet region of the spectrum is of the greatest significance at Wright Field. The reasons for that are the types of problems arising there. Since most of the materials used in aircraft at the present time are alloys, many of the problems arising in connection with materials are metallurgical. Although the spectra of many metals are quite simple, that is, containing only a small number of lines, the spectra of others are very complex. The greater the dispersion between lines, the more accurately each line may be identified. Since the prism of the spectroscope bends the light of short wave lengths more than it does that of longer wave lengths, the dispersion is greatest in the ultra-violet region of the spectrum.

To enable one to study the spectra in this region of invisible light, it is

necessary to utilize instead of the eye the photographic plate, which is very sensitive to ultra-violet light. When a spectroscope is equipped to photograph spectra, the instrument is called a spectrograph, and the photographic record of a spectrum is referred to as a spectrogram. Since glass absorbs most of the ultra-violet light reaching it, the prism must be quartz, which stops only a small portion of the light reaching it. A quartz prism spectrograph is the type of instrument in use at Wright Field. All the metals and some of the non-metals (about 70 elements in all) are detectable with the instrument under ordinary conditions.

Determination of the composition of an alloy may be required for various reasons; it may be a newly developed alloy of unknown composition, it may have failed in service, or its identification may have been lost. A sample is sent to the spectroscopist, and a spectrogram prepared of the light emitted by it when it burns in the electric arc. By thorough examination of the spectrum, each detectable element present in the sample may be found.

Since the intensity of the light in the spectrum of any one element is proportional to the amount of that element present, the density of the photographic lines made by that light also increases as the quantity of the element increases. This makes it possible for the spectroscopist to estimate the relative amounts of the elements present in the sample, and to classify them as major, minor, or trace constituents.

The extreme sensitivity of the spectrograph makes it particularly valuable in detecting small traces of elements in a bulk of material, or for working with minute quantities of materials. As an example of the first case, the spectrograph might be used to detect the presence of traces of tin in copper - the former element being very undesirable for certain usages of the copper.

Minute samples of matter require spectrographic analysis when it is necessary to retain as much of the sample unharmed as possible, or when only a small speck of material could be obtained for analysis.

A complete compositional analysis of an alloy requires a chemical analysis. Unless the chemist undertakes a laborious and tedious qualitative analysis, he does not know what elements are present, or what method of quantitative analysis to employ to avoid serious interference from other elements.

Spectrographic analysis usually solves the first problem completely, and assists him in solving the second one by telling him the relative amounts of

each constituent present.

At the present time there is a program under way to develop a method of quantitative analysis of certain types of alloys; it is hoped that the method will approach closely the accuracy of the regular chemical analyses; and in some cases - especially in the determination of trace elements - to excel the chemical method in this respect.

The spectrographic method of analysis is characterized by its speed, since all constituent elements are disclosed in one spectrogram, by its use of small samples, and by its permanent record of the analysis.

In the Physics Unit of the Materials Laboratory at Wright Field, the spectrograph has been used in the analysis of metals, chemicals, analytical residues and precipitates, corrosion products, soaps, cleaners, greases, oils, paint pigments, and textiles. More than a thousand determinations are made each year. In case an engine part which has failed in service was to be chrome-vanadium steel, and no vanadium is detected in the spectrogram, the cause of the failure may be traced to the substitution of an improper material. In another case, the spectrum of a metal which had shown unusual welding properties included an indication of lead which had not been suspected. It was found that this trace of lead was responsible for the improved properties.

The presence of small amounts of zirconium and columbium has been detected and correlated with specific properties of aircraft materials. Corrosion products frequently yield information by means of spectrographic analysis which leads to the particular rivet or other metal part responsible for serious corrosion. Stains on textiles have been identified from the almost insignificant trace of metal remaining in the stain.

In all cases the positions of the lines in the spectrum define the constituent elements, and the intensities of the lines indicate the proportions present.

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NEW GROUP PRESENTED ITS NATIONAL COLORS

The newly activated 11th Bombardment Group (M), Hickam Field, T.H., was formally presented its National Colors at a ceremony on Saturday, February 17th, at 9:00 a.m.

In an impressive formation held at Hickam Field, T.H., Wing Commander Brigadier General Walter H. Frank presented the colors to Major Frederick D. Lynch, acting Commanding Officer of the

(Continued on Page 4)

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THE PRESIDENT'S VISIT TO THE CANAL ZONE

France Field

"To the more or less unimpressible service personnel," says the News Letter Correspondent, "visits by distinguished personages are not cause for great excitement. Most Americans, too, are inclined to take people and events as they come as a matter of the moment or routine. Here in the tropics this is especially true.

"Today, February 18, 1940, to every man, woman and child at France Field, the lethargic feeling was replaced in no uncertain fashion by keen anticipation of the visit of President Franklin Delano Roosevelt.

"The Navy brought him down here and escorted his cruiser with a flight of planes from a few miles out to sea to the breakwater. There the Air Corps took over and passed in perfect 18- plane formations of B-18's and P-36's back and forth over the cruiser until it docked at Gatun at 9:00 a.m.

"The President and his party arrived at France Field about 11:00 a.m. They passed between lines of men formed by all the Squadrons out onto the airdrome where all the B-18's, with complete combat crews, were lined up diagonally across the field. It was a perfect line, and each man and plane was able to get a fine 'look' at the President.

"Then the President drove past the Officers' Club and waved to all the wives and children assembled there. All the children saluted or waved, and to their delight the President heartily waved back.

"Major House, who rode in the President's car during the inspection, stated that he was inspired by the Commander-in-Chief's intimate knowledge of details pertaining to our Air Corps."

Albrook Field

Albrook Field, Canal Zone, paid tribute to President Franklin D. Roosevelt on Tuesday, February 27th, as did all other posts in the Panama Canal Department.

The visit by the President was his second in ten days. He transited the Canal from the Atlantic to the Pacific side February 18th.

While President Roosevelt was kept very busy receiving various delegations, including some from the Republic of Panama, his visit in the Pacific Sector was of sufficient length for a complete tour of the posts and a brief but thorough inspection.

The Cruiser TUSCALOOSA, bearing the President, was escorted to a point near Panama by Naval planes, and there it

was contacted by Pursuit planes of the 37th Group, Albrook Field, and escorted to the docks at Balboa, Canal Zone.

While in dock, President Roosevelt met several delegations aboard ship, and from there he started his tour of inspection.

First on his itinerary was Fort Amador where he received military honors, and from there he went to Albrook Field. All the planes of this command were lined up adjacent to a taxi strip, half a mile long, and the President, in an official car, viewed the line of planes with complete crews at attention in front of them. He received a 21-gun salute at Albrook Field. From Albrook Field he went to Fort Clayton, thence to Camp Pariso, on to Pedro Miguel Locks for an inspection of the Naval Ammunition Depot, then to Fort Kobbe and Howard Field - new landing field site of the U.S. Army - and back to Pedro Miguel Locks to board the vessel.

President Roosevelt arrived at the Locks at 1:15 p.m., to board the TUSCALOOSA. A delegation of Panamanian officials, with President Augusto Boyd, of Panama, at its head, also boarded the ship and transited the Canal with the President.

Also aboard the TUSCALOOSA with the President were defense heads of the Panama Canal Zone, including Brigadier General H.A. Dargue, 19th Wing Commander.

A 21-gun salute was given President Roosevelt as he left the TUSCALOOSA at Balboa. In his official car for the tour of the Panama Canal Zone posts were Major General Daniel Van Voorhis, Commanding General of the Panama Canal Department, and Governor C.S. Ridley, of the Canal Zone.

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FLIGHT OF BOMBERS FROM PANAMA TO LIMA

Under date of March 9th, the Hon. Harry H. Woodring, Secretary of War, announced that Major General Daniel Van Voorhis, Commanding General of the Panama Canal Department, would leave Albrook Field, Canal Zone, on March 10th on a good will flight to Lima, Peru.

Accompanying General Van Voorhis were to be 29 officers and 24 enlisted men, the flight of 12 B-18 airplanes being commanded by Brigadier General Herbert A. Dargue, Commander of the 19th Wing in the Canal Zone.

The flight was scheduled to land at Guayaquil, Ecuador, Sunday afternoon, March 10th, remain overnight in that city and proceed to Lima the next day. In Lima a stay of 3 days was scheduled.

SOME NEW "DOPE" ON THE RYAN YO-51

"Emulation of our seniors," says the News Letter Correspondent at the Ryan School of Aeronautics, San Diego, Calif., "had always seemed a pretty good adage that has paid certain appreciable dividends in our flying progress at Ryan School."

"We are now facing a very critical situation, with the appearance of the Air Corps' latest in equipment. The first model of the Ryan YO-51 'Dragonfly' has been grasshoppering in our midst and is doing things that have reduced our carefully nurtured conceptions of how an airplane flies to a pile of ashes."

"As one confused flying cadet puts it, 'I was coming in for a landing and the first thing I knew I passed under some shade that shouldn't have been there. I looked up and saw the "Dragonfly" about a thousand feet above me but I knew he couldn't get into the field as high as he was so I came on in and landed. When I looked back after my landing roll, there was the darn contraption sitting on the ground about 200 yards behind me. By the time I got back to the line the "Dragonfly" was floating around at 1000 feet again. Sometimes I get discouraged.'"

"They tell us the plane is an experimental design for liaison and short range observation. Well, I'd hate to be a doughboy cause I suspect the YO will not be long in getting itself nicknamed the 'Peeping Tom.'"

"I can well imagine the consternation of Private Smith who sits down for a smoke when he's supposed to be laying a phone line and hears a stentorian 'On your feet, soldier!' from overhead and looks up to see his C.O. leaning over the side of a motionless 'Peeping Tom.'"

"We don't know what the performance figures are and we don't crave enlightenment for having seen it, we still think it's a lie. The printed word would only further confuse our waning confidence in what we'd always considered to be at least an average pair of eyes."

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MAXWELL FIELD LANDING AREA ENLARGED

The Air Corps Tactical School landing field is being enlarged considerably, and its night lighting facilities improved. The enlargement of the field is being effected by the extension of the boundary marker lights.

The project was commenced on February 1st and is now about 50% completed. It is expected to be finished by April 1st. The cost of the new equipment is estimated to be \$15,000, and the in-

stallation will involve an expenditure of approximately \$7,000.

All plans for the changed lighting system were perfected by technicians from the Air Corps Materiel Division, Wright Field, Ohio. The special equipment necessary for the installation was also contracted for by that agency and shipped to Maxwell Field.

The Constructing Quartermaster at the Air Corps Tactical School who is in charge of the project, Major George S. Deaderick, said that the banks of flood lights which were being installed for three runways will greatly facilitate night landings. Incidentally, the runways are to be lighted at both ends. This phase of the program is partially in operation, and pilots who have been performing night flying recently said the revamped lighting system is a decided supplement to the old.

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New Group Presented its National Colors (Continued from Page 2)

11th Group during the temporary absence due to illness of Colonel Walter F. Kraus. General Frank was accompanied by his staff.

Upon the arrival of General Frank and his staff, the 15th Coast Artillery Band, Fort Kamehameha, T.H., conducted by Warrant Officer Hendrick Scholtens, rendered the "General's March." Major Lynch then reported the Group as formed, at which time 1st Lieut. Walter C. Sweeney, Jr., Air Corps, read a congratulatory radiogram on the activation of the 11th Group from Major General Henry H. Arnold, Chief of the Air Corps.

General Frank then spoke to the Group and at the conclusion of his speech the Group was called to attention, the colors moved into position, and the Band played the National Anthem.

Following this, a stirring rendition of the new Air Corps song was given by the Band, after which the Group was dismissed.

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According to the News Letter Correspondent, the recent heavy floods widely publicized by Chambers of Commerce all over the country, have had no ill effect at Hamilton Field, although all the landing area, including the mat, is close to sea level. The heavy rainfall was adequately taken care of by the pumping plant. Aside from a few flooded basements, no damage was done.

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The 19th Pursuit Squadron, Wheeler Field, T.H., operates an amateur radio station under the guidance of Sergeant R.D. Landreth, a licensed operator, and is handling as high as 45 mainland messages a week.

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CHIEF OF STAFF INSPECTS PANAMA CANAL DEFENSES By the Albrook Field Correspondent

General George C. Marshall, Chief of Staff of the United States Army, completed a four-day inspection tour of the defenses of the Panama Canal on February 9th, and departed from Albrook Field for the remainder of his tour, to include Venezuela, Puerto Rico, Miami, and return to Washington.

Arriving at Albrook Field shortly after 2:00 p.m., February 5th, in an Army B-17 from Miami, General Marshall was greeted by a 17-gun salute, and later trooped a line, composed of officers and men from every Albrook Field organization that was more than a half-mile long.

Accompanying General Marshall on his tour were Brigadier General George H. Brett, Air Corps, Chief of the Materiel Division; Colonel Kenneth Buchanan, General Staff Corps; and Air Corps officers and men in charge of the airplane, including Major H.L. George, pilot; Captains Carl B. McDaniel, co-pilot; W.A. Matheny, 1st Lieut. Torgils G. Wold; Navigators; Master Sgt. Floyd Haney and Tech. Sgt. J.E. McDonald, engineers; Staff Sgt. J.H. Walsh, radio operator; Sgt. D.E. Hamilton, armorer, and Staff Sgt. J. Semanko, orderly.

On the field to welcome the Chief of Staff as he arrived were Major General Daniel Van Voorhis, Commanding General of the Panama Canal Department; Major General Ben Lear, Commanding General of the Panama Pacific Sector; Brigadier General Sanderford S. Jarman, Commanding General of the Panama Provisional Coast Artillery; Brigadier General Herbert A. Dargue, Commanding General of the 19th Wing; Colonel Jacob L. Devers, Chief of Staff of the Panama Canal Department; Colonel G.W. Edgerton, Acting Governor of the Panama Canal; U.S. Ambassador William Dawson, and other high ranking officers of the Department.

The First Battalion of the 5th Infantry, commanded by Major Walter S. Wood, was on the field to render honor to General Marshall. All available planes of Albrook Field were lined up for inspection adjacent to the runway on which the B-17 landed, and all personnel of the 37th and 16th Pursuit Groups were in front of the airplanes.

General Marshall was greeted by General Van Voorhis, and immediately after the salute was given. His inspection of Albrook Field personnel followed.

From Albrook Field, General Marshall went to Quarry Heights, Headquarters of the Panama Canal Department, and during his stay was taken in a B-18 of the

74th Bombardment Squadron for inspection tours of the Isthmus. With General Dargue piloting one of the B-18's accompanying General Marshall, a number of hours were spent in inspecting by air the defenses of the Panama Canal. Another Bomber, carrying General Van Voorhis, and one carrying General Brett, were used on all inspection tours.

Included on the first day's inspection tour were Albrook Field; Howard Field, a new landing field site on Bruja Point, across the Canal from Albrook Field; Fort Kobbe, all on the Pacific side of the Isthmus; and Madden Dam, Gatun Lake, Fort Davis, Mount Hope, Fort Sherman, Cristobal, Coco Solo, Fleet Air Base, France Field, and other Atlantic Sector posts. He also saw the Canal locks. All planes of the inspection flight circled repeatedly over each point on General Marshall's itinerary, in order that he might make a thorough inspection.

On the second day of his inspection, General Marshall was taken to the Army's Base at Rio Hato, where a very thorough inspection was made. The other planes, bearing Generals Van Voorhis and Brett, accompanied him again on this tour, and the return trip was made by Taboga Island, a few miles from Albrook Field, and Old Panama.

Following the trip, the Chief of Staff called on President A.S. Boyd, of the Republic of Panama.

In a brief interview, General Marshall declared he was happy to visit the Panama Canal again, and recalled that he had been here with General Pershing in 1920. He said his inspection tour was to permit him to gain more than a theoretical knowledge of the Canal Zone and its installations. He sketched briefly the Army expansion program, and said the Canal Zone was included, but that housing conditions and limitations would prevent many more people being sent here except in case of emergency.

At an orientation conference following his interview, General Van Voorhis discussed the "orientation aspect" of the meeting. General Dargue outlined Air Defenses of the Canal; General Jarman discussed Coast Artillery Defense; Colonel Tilton talked of constructions and costs and Colonel Edgerton spoke on passive defense measures.

The orientation conference also was attended by General Brett, Colonels Buchanan, Hughes, Devers and Eastman; and Majors Leslie D. Carter, of the Department Intelligence Office, and Carl Rosenberger aide to Gen. Van Voorhis.

CONSTRUCTION BEGINS ON WESTOVER FIELD

Lieut. Colonel Thomas S. Voss, Air Corps, Commanding Officer of the 26th Air Base Squadron (Single), which was constituted at Maxwell Field, Ala., on February 1, 1940, for service at the Northeast Air Base, Westover Field, Chicopee Falls, Mass., recently stated that he had received data on this new airdrome from Major Murdock A. McFadden, Quartermaster Corps, who is in charge of the construction now in progress there.

Assigned to the new post are 461 non-commissioned officers and privates, and they are being retained at Maxwell Field pending transfer to Westover Field at a later date.

In his communication to Colonel Voss, Major McFadden stated that contracts for temporary barracks and mess halls for 1400 men were awarded on February 20, 1940, and that instructions were issued to start construction immediately. He also stated that the airdrome is to be located in Chicopee Township and Ludlow Township, Hampden County, Mass., it being $4\frac{1}{2}$ miles from Chicopee Falls, 6 miles from Chicopee, 10 miles from Springfield and $4\frac{1}{2}$ miles from Holyoke. The size of the reservation is 4,300 acres, the length of its longest section being $4\frac{1}{2}$ miles, and the width of the widest section 3 miles.

The 1940 appropriations provide for five one-family officers' quarters, and quarters for five noncommissioned officers' families. These will not be completed in 1940.

Major McFadden also stated that the Chambers of Commerce in the adjacent cities and towns had undertaken surveys to determine housing facilities, and plan to have this data available for the Commanding Officer upon his arrival at Westover Field. Housing facilities are available in the cities of Holyoke, Springfield, Chicopee, Chicopee Falls, Aldenville, Fairview, South Hadley, South Hadley Falls, and other outlying communities. Unfurnished houses are plentiful, but not many furnished houses are available. Both furnished and unfurnished apartments can be obtained. There are also good school and church facilities.

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Lieut. Colonel William O. Butler, Base Executive Officer at Hamilton Field, Calif., has been ordered to March Field, Calif., for duty with Headquarters, 1st Wing, GHQ Air Force. Colonel Butler arrived at Hamilton Field from Panama in July, 1939, and was made Base Executive Officer. He is expected to assume the position of Executive Officer of the First Wing at March Field.

RESERVE OFFICERS JOIN 23RD GROUP

Thirty-eight second lieutenants of the Air Reserve, on extended active duty at Maxwell Field, Ala., were recently assigned to the 23rd Composite Group. They had previously been assigned to the 91st School Squadron and the 13th Air Base Squadron. All of them graduated from the Air Corps Training Center on November 28, 1939.

The flying training of this brood of fledglings will be conducted under the supervision of Major Frank O'D. Hunter, Air Corps, Group Commanding Officer. Major Hunter, one of the most decorated officers in the Air Corps, has been awarded the Distinguished Service Cross with four Oak Leaf clusters and the Purple Heart by the United States, and the Croix de Guerre with palms by the French government for feats performed during the World War.

Major Hunter came to Maxwell Field last Fall to establish the new unit, which consists of a Headquarters Squadron, 1st Pursuit Squadron, 24th Bombardment Squadron (Light), and 54th Bombardment Squadron (Medium), with a total complement of 88 officers and 614 enlisted men.

Major Hunter recently stated that the mission of his organization is three-fold: first, to furnish a tactical service test of airplanes and its auxiliary equipment, such as machine guns, cannon, ammunition, bomb sights, bombs, chemical apparatus, radio, oxygen equipment and flying clothing; second, to develop and test new aerial technique and tactics; third, to demonstrate this technique and tactics at the various U.S. Army Service Schools, and General Headquarters Air Force stations.

The Reserve officers reassigned to the 23rd Composite Group are: 2nd Lts. Wesley A. Anderson, George I. Aubert, Nolan D. Baker, James K. Boyd, Joseph F. Brannock, Merle C. Brown, Leo L. Cannon, Daniel H. Carmines, Jr., James E. Haile, Jr., Walter W. Cross, Edmund F. Freeman, Conway S. Hall, Daniel G. Hawes, Harry J. Hawthorne, James R. Heron, Florian A. Holm, William J. Jowdy, Thomas C. Kennington, William M. Knowles, Donald W. Lang, James A. Lee, Benjamin F. McConnell, II, John A. Mahoney, Jr., John B. Martin, David J. Munson, Paul H. Payne, Edward J. Potter, Harry B. Pratt, Frank Schiel, Jr., Benjamin M. Sheldon, Thomas M. Todd, Harry L. Waesche, Walter J. Wagner, George A. Walker, Rollin M. Wittingham, William H. Yaeger, Jr., John L. Zoeckler and Robert H. Payne.

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COMMENDATION FOR SERGEANT GREY

Technical Sergeant Ralph E. Grey, of the Power Plant Branch of the Air Corps Materiel Division, Wright Field, Ohio, is the recipient of a letter of commendation from the Hon. Harry H. Woodring, Secretary of War, congratulating him on the reception, design, fabrication, and testing of a hydraulic fuel system which "makes it possible for military aircraft to reach altitudes not heretofore attainable primarily because of fuel system limitations." The hydraulic fuel system accomplishes this result by stabilizing the fuel pressure at all altitudes of flight.

"As a result of your creative ability and mechanical skill," the letter reads, "it has now been possible to reduce your design to practice, and the hydraulic fuel system is either in the process of being installed or will be installed in many tactical types of airplanes of the U.S. Army Air Corps."

Credit for an accomplishment such as Sergeant Grey's can seldom be confined to an individual. In this case, however, the achievement is virtually an individual one. The Sergeant had the benefit of daily association and consultation with a technically trained staff, but the ingenuity which led to the original development and the zeal and intelligence with which he followed through to success were peculiarly his own.

Sergeant Grey reported for duty at Wright Field on January 7, 1935, on detached service, in order that he might use the facilities available at the Materiel Division for developing certain technical equipment which he had conceived while on duty at Langley Field with the 16th Aero Squadron. He had been at the Materiel Division ever since. The original development which he came to accomplish proved to be but a valuable step in a more ambitious project - the present hydraulic fuel system.

From the time of his arrival, Sergeant Grey has been devoted to this project with an enthusiasm and industry which led him to spend at his work many week-ends and nights which might have been given to personal enjoyment. This, of course, was done without thought of personal remuneration. In this work not only his attitude toward his project but that toward his associates was such that all have been interested in observing the various steps of development and were happy in his final success. He is a native of Wyoming, was brought up in Kansas and enlisted at Fort Riley in 1919. He has served also at Chanute and Langley Fields. Sergeant

Grey is married and the father of two girls and a boy.

Sergeant Grey's contribution to the science of aeronautics is undoubtedly one of great importance. "For this development," Mr. Woodring's letter concludes, "which is the product of your ingenuity, skill, zeal and enthusiasm, I desire to commend you and to congratulate you. It is upon men like you that the finest traditions of the Air Corps have been established. You are a credit to the service in which you are enlisted. I am certain that your service record will be an inspiration to other men who are likewise enlisted in the service of their country."

The letter, which was dated February 14th, made a most acceptable valentine for Sergeant Grey.

- Materiel Division Correspondent
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NEW TYPE OF SUB-ZERO TOGS DEVELOPED AT WRIGHT FIELD FOR ALASKAN PILOTS.

Newest of the cold weather clothing designed and developed for the Air Corps by the Materiel Division is a 3-piece outfit for pilots, consisting of a parka-type jacket, hip-type boots, and mittens. The major features are that the necessary ventilation and maximum insulation from cold are attained by the unique design without sacrificing the freedom of movement required by pilots.

With Alaska in mind, the Equipment Branch tested the garments in the cold chamber under temperatures ranging down to - 49 deg. F. The parka jacket is three-quarter length. Its hood protects the pilot's head and face, while a muff-type pocket in front provides a place to warm hands. Work with the jacket, hip-type boots take the place of trousers, and specially designed mittens complete the outfit.

In conjunction with winter maneuvers of the Air Corps, the Materiel Division has been continuously engaged in the development and testing of cold weather equipment since 1932. Some items now in standard use are covered briefly in the following paragraphs:

The warm shearling jackets and trousers for mechanics were designed to be worn under coveralls. Shoes similar to winter flying shoes are worn with them. Later a blizzard cape which completely envelops head and shoulders was developed for use in extreme weather conditions.

Engine warming covers, engine heaters, heating tubes for thawing out equipment, airplane maintenance shelters with heaters, wing and tail protective

(Continued on Page 10)

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RANDOLPH FIELD PHOTOGRAPHIC ACTIVITIES (Photo Sections Please Note)

Assisting in the national publicity campaign now being conducted by the Air Corps for Flying Cadet recruitment, the Photo Department of Randolph Field produced a total of 27,798 contact prints and enlargements in the two months' period which ended February 29, 1940.

Individual informal portraits of approximately 500 Flying Cadets and sufficient prints to furnish all newspapers in their home State was one of the projects completed during the two months' period which set what is believed to be a record of some sort for Air Corps Photo Departments.

Six giant 40 x 48-inch photo murals, showing typical scenes of the "West Point of the Air," were made during February and later displayed at the annual George Washington Birthday Ball in San Antonio. A mosaic of Randolph Field area was flown in January, three enlargements being furnished various post activities.

A total of 233 lantern slides, mainly for publicity purposes, was another project of the 11-man department, which is a part of Headquarters Squadron and not a complete Photo Section.

An analysis of the two months' production record shows that during January there were 13,114 contact prints made, 1,111 ground negatives (both 4 x 5 and 9 x 10 inch); 43 aerial negatives, and 173 lantern slides.

The short month of February accounted for 12,136 contact prints, 2,088 enlargements, 1,023 ground negatives and 60 lantern slides.

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CLASS 40-D AT RANDOLPH FIELD

The newest class of Flying Cadets at Randolph Field, Texas, is unique for two reasons. It is the first class to have any training in the new BT-14 airplane, and it is the only class so far which has not received students from all of the nine civilian training schools throughout the country. Due to unusually bad weather which has persisted for such a time that it was impossible properly to train a class of students in primary flying technique, the civilian elementary flying school at Lincoln, Nebraska, was unable to send any students to Randolph Field for this new class.

Since there are not enough BT-14 airplanes at Randolph Field to use exclusively, "C" and "E" Flights have equipped two of their 16 instructors with BT-14 ships for both dual and solo work. The students of these two instructors will secure their basic flying training

training in the BT-14, and later soloed in the BT-9.

Of the 250 Flying Cadets and two Regular Army officers on "A" stage, the various schools for Primary Flying Training have sent this number of students: Chicago, 14; Dallas, 42; Grand Central, 28; Santa Maria, 34; Parks, 21; Spartan, 60; Tuscaloosa, 26, and Ryan, 27. These students will receive a minimum of 75 hours' training each in 59 flying days.

During the week of February 26th, the 240 Student Officers and Flying Cadets of the present upper class have visited the Post Weather Office in groups of 35 or less. Each of these groups was split up into four sections and was given 15 minutes in each of the four main departments of the office, namely, teletype, plotting, observing and forecasting. They are shown the actual operations carried on in the four departments and are given the opportunity to see the Weather Office in operation, thus receiving a clearer picture of how it works.

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REUNITED OVER SHORT WAVE RADIO

The Wheeler Field Correspondent says that "the recurring frequency of modern miracles so familiarizes us with our opportunities that we are hardened to our existence and fail to marvel." On Sunday, January 21st, at 10:00 o'clock, Private George M. Smith, of the 19th Pursuit Squadron, passed the time by listening in while Sergeant Landreth of the 19th operated the Squadron's licensed amateur radio set. Private Smith became particularly interested when he heard Landreth say to his unseen listener, "You're the first station I've talked to in Tulsa, Oklahoma. We have a man here, George Smith, from Tulsa." Thus were two high school friends united over 4,000 miles of etherial substance without planning the conversation. To complete the miracle, Smith's friend said, "Hold on, I'll get your sister on the phone," and thus Smith talked to and heard his sister."

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The training of 136 more enlisted men as Air Corps mechanics at the Curtiss-Wright Technical Institute, Glendale, Calif., has been authorized.

Scheduled to arrive at two-week intervals in groups of 34, selected men from western fields will take the place of graduating groups of the original 272 authorized for this detachment.

The first group under the new authorization began work at the Curtiss-Wright Technical Institute on February 19th.

V-8396, A.C. vrot

THE NEW ORDER OF PRIMARY TRAINING (As observed by the Chicago Supervisors)

"The old order changeth, etc." And so it is with Primary Training. After instructing on the Primary Stage at Randolph Field for four years, one can reasonably feel that he has had first, or at least second, hand experience with all the problems connected with Primary Training as conducted by the Army Air Corps.

Quite a few "supervisors" at the various civilian primary training schools learned how grievously this was in error before "Public No. 18, 76th Congress" had been in effect many days. The fathers at Randolph Field, whose brain child this was, had said: "Flying and checking students will be your easiest problem." And they were right as far as they saw. But the length of their vision was limited by "the home of sunshine, Gulf breezes and the Alamo."

Now that the way is prepared, we will come out boldly and get at the meat of this little article. Our real subject is, "H... on Ice, or How to Keep From Freezing in a PT-13." All the cold weather we got in Texas was unusual down there, but it had traveled eight hundred miles after passing these latitudes and was beginning to get warmed up by the exertion. We get it here from Canada via Minnesota and Wisconsin, but it is kept fresh on ice all the way down. You have heard it said that this is a different kind of cold up here and that you don't feel it the way you do down South. That is quite true. The cold up here is fixed so that if you don't get the h... inside a house or a lot of fur lined clothes on fast, you feel nothing at all in a very short time. People can kid themselves about different kinds of cold, but you can't kid a thermometer, and you can't kid the human epidermis when it comes in contact with the same thing that depresses the thermometer. The only thing that makes cold colder is humidity, and we have had that here in such quantities that the top of the radio tower was fuzzy when the temperature was around zero. We have carried on operations on several days when the temperature varied between 5 and 10 degrees with the thermometer in the sun on the protected side of the house.

Now I will tell about some of the cold weather troubles we have had. The cold came rather gradually, as we had a mild Fall. Occasionally some of the students wore face masks, more for appearances than anything else. Then came January - the coldest in the history of the Weather Bureau here. The

mean temperature for January was 16.2 degrees, and we put in 785 student hours in January with 30 students. As the temperature got lower, I began to be conscious of my face, and frequently became just as pained by it as other people are. Finally we put everything on and even hid our faces in masks, but the cold was still finding us and getting worse with every wave. We could take it down to almost zero, but when it got that cold we had the following trouble:

We couldn't get a rise out of the oil temperature gauges; they wouldn't even get up to zero, and running the engine did no good. Wright Field could do nothing for us, so the Engineering Officer suggested that the only hope was to hold lighted matches under the gauges. This had to be discontinued because we had to buy our own matches. Several of the engines caught cold and started sneezing when we tried to start them, then developed chronic coughs which always bothered them (and us) on forced landings. One plane's cough worked down in its chest and had to be confined in the hangar for fear of pneumonia.

While it never really got too cold for us (?), it did get too cold for the planes. On the coldest day we pushed a few of them out, but they began vibrating even before we could get the motors started. The fabric began to get goose pimples all over it and the planes shivered so violently the rivets and fittings started to loosen. One plane locked its wheels, poked its nose in the snow and refused to go any farther. (For those desiring proof send 25¢ for picture.)

We had to quit bathing the planes for fear they would take more colds. They seem to respond better to a brisk rub-down with just a dash of Vicks Vaporub added to the gasoline. We are watching them carefully to see that none of them pulls its wheels up under the wings to keep them warm. The students seem to fear this also, as they usually touch the wheels to the cold snow a few times when landing before trusting them with the full weight of the plane.

One of the students came in one day and said he noticed the plane turning blue, and he thought maybe it was getting too cold. We showed him that all the other planes were blue also and he felt better about it.

We have found a way to keep the planes flying on all but the coldest mornings by borrowing a scheme from the dictators. The Operations Officer an-

nounces the official temperature and suppresses all evidence to the contrary. All planes that refuse to accept the official temperature are subject to overhaul.

Of course, not all of our troubles have been with the planes. One student is said to have groped his way back to the field in a blinding snowstorm only to find that the snowstorm disappeared when he pushed up his frosty goggles. An instructor is said to have sent a student to see the Flight Surgeon because he thawed on the controls. He was the first student to thaw on the controls for several days, so the instructor thought he might be feverish. Another student was up for a check ride who was a good looking lad and failed to wear a face mask, evidently hoping to capitalize on his manly beauty. The supervisor noticed that he began to get pale while doing forced landings and decided he couldn't stand up under pressure, when he suddenly realized the man's face was freezing. Since he was the only good looking student we had, the supervisor hurried him back to the field in order to save his beauty for the belles of San Antonio, as he would offer no competition to the supervisor that far away.

Some of the students who frighten easily are very much disturbed by the face masks, so the Supply Officer requisitioned some masks with a more pleasant expression. For himself he worked out a mask that would change from a smile to a frown by pulling a string. This was for the students who spend most of their time during a check ride watching the check pilot in the mirror.

The most unfortunate incident we have had occurred one day when the supervisor and a student he was to check both showed up at the plane with masks on. They couldn't tell each other apart and, in the resulting confusion, they got into the wrong seats - the student checked the supervisor and the supervisor was eliminated.

Any California supervisor having any excess temperature please forward same to Chicago.

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Clothing for Alaska (From Page 7)

Covers, shelter tents, and sleeping bags are other cold weather equipment developed by the Materiel Division and now standard.

The snow plows used to clear runways of airdromes are commercial products meeting Air Corps requirements, as is the standard de-icing equipment used by the Air Corps. Additional investigation as to improvement in material and design of Alaskan equipment will be continued.

OXYGEN EQUIPMENT FOR HIGH ALTITUDES By the Materiel Division Correspondent

Improved oxygen equipment for use in high altitude flying by the Army Air Corps has recently been standardized. This consists of oxygen cylinder, regulator, breathing bag and mask.

When full, the oxygen cylinder contains oxygen compressed to a pressure of 1800 pounds per square inch. The oxygen, when thus compressed, occupies a volume of 646 cubic inches, but when expanded to normal atmospheric pressure it occupies a volume of 48.3 cubic feet.

Attached to the cylinder is an oxygen regulator. The flow of oxygen from the cylinder to the mask is regulated manually by means of the control knob on the regulator. The regulator scale is graduated in thousands of feet altitude. The flow of oxygen is adjusted so that the indicating needle points to the aviator's altitude. Another scale on the regulator indicates the pressure in the oxygen cylinder, thus furnishing information as to when the cylinder is nearing empty.

The oxygen flows into the rubber breathing bag attached to the mask. From there it passes up into the mask proper. Part of the expired breath returns to the breathing bag and part is forced out through the exhalation valve immediately above the bag. At the next inspiration, the aviator inhales a mixture of fresh oxygen and expired air. The mixture contains safe amounts of oxygen and carbon dioxide.

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NEW INSIGNIA FOR ADVANCED FLYING SCHOOL

The Air Corps Advanced Flying School now boasts a new and distinctive insignia badge which is being worn by the entire personnel of the Air Corps Advanced Flying School at Kelly and Brooks Fields. The insignia is a gold crest upon which the torch of "Light" is imprinted between two deep blue panels. On a separate scroll at the bottom are the words "Ut Viri Volent."

The enlisted personnel of newly formed units temporarily stationed at the Air Corps Advanced Flying School may, if they desire, but are not required to, wear the insignia. This insignia will be issued to enlisted personnel from purchases made by units funds and henceforth each newly joined enlisted man will be provided with a complete set without cost.

Officers will wear the crest on their uniforms.
(Continued on Page 12)

SECRET

R I O H A T O

19th Wing Training and Recreation Camp

The photographic mosaic of Rio Hato and its environs might well be mistaken for an area in the vicinity of the Grand Canyon. Apparently rough and rugged - and it is - this site in the Republic of Panama, only 80 miles west of the Zone, three hours by automobile over a good road and only 25 minutes by air, is a godsend to the 19th Wing. Starting with a bluff about 100 feet high at the Pacific beach, the table land, deeply cut by arroyos, extends three or four miles to the north and then climbs to the rugged heights of mountains towering nearly a mile into the blue. But on this table-land nature has provided, fortunately in the direction of the prevailing wind, long stretches of level land between the arroyos which, with but little preparation, become suitable immediately for the landing of all types of aircraft. On a recent visit of a B-17, Rio Hato welcomed this new type of ship.

For years this site has been used for gunnery and bombing training, and temporary structures have been erected to house the personnel. A radio station has been operated here also. The increase in the size of the Panama air garrison has prompted the further development of this 19,000 acre tract, which is to be leased for 999 years. Whereas the early temporary construction was placed about two miles back from the beach, a new site, to house several hundred officers and men, has been developed on the bluff immediately above the beach.

This camp is nearing completion and here we find accommodations for several hundred enlisted men in three large barracks, about 100 officers in a separate building which has been divided into apartments, a consolidated mess hall with officers' section, a large recreation building, post exchange, a moving picture theater, a 15-bed dispensary, generating plant to light the camp and illuminate the runway, wells and storage capacity for water, and even modern plumbing throughout all buildings and a large septic tank and irrigation area for disposal of sewerage. A large hangar is about to be constructed at the intersection of two fine runways that have been developed recently and are now in use.

The advantages of this location are many. Nature has provided a range of mountains to the north which intercepts most of the rain clouds with the result that precipitation is only half that at Albrook Field. The climate seems dryer and the weather more like Texas. It is

indeed, a haven for the flyer who finds his home station blocked out temporarily by storm. The population is scarce in this section, and so bombing and gunnery is carried on almost at will. Even the Field Artillery and the Antiaircraft Artillery are going into this section for their practice because of this fire freedom.

Then there is the freedom from post and social routine found in the Zone, a beautiful beach at your front door, and swimming, fishing and sailing to amuse you. And for the hunter, coveys of quail, wild dove, plenty of deer and other animals may be found. The initiated takes both his gun and his fishing rod to Rio Hato. Here it is that the best training can be combined with complete relaxation and recreation.

A small portion of this large reservation, bordering the Pacific, has been set aside for development as a Departmental Recreational Center. Even now several hundred feet of lumber are springing into buildings to house officers and enlisted men. Field Artillery, Antiaircraft Artillery, and Infantry, especially, can find wonderful maneuver room in this area and they, too, enjoy the recreational facilities. Families will be welcome in both the Department and the Air Corps sections that have been and are being developed on the beach. It is here that cooperative missions with the ground troops, especially the Antiaircraft Artillery, can be carried out on a wholesale plan and great benefits derived from this freedom in training that cannot be so readily secured in the Zone where areas are greatly restricted and weather so often interferes.

Plans for the future include practically an all-year use of the facilities provided in this training area, with one or more Air Corps units "in camp" at all times. Additional runways will be cleared; a localizer beacon erected; field lighting installed; additional means of communication provided; heavy supplies will be moved by barge and transferred to a dock between tides; storage for gasoline installed; roads and sidewalks put in and other improvements made as conditions warrant and funds become available.

To those who may be ordered to Panama, look forward to a vacation at Rio Hato. It is the Baguio of Panama, a setting from shore to mountain, full of beauty and intriguing to the nature lover!

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The Dead Reckoning Navigation Schools conducted by squadrons of the 17th Bombardment Group, March Field, are progressing rapidly, so that in a short time the Group will have more D.R. Navigators. V-8396, A.C.

GRAND CENTRAL FLYING SCHOOL ACTIVITIES

A "tri-dimensional traffic pattern," devised by Chief Instructor Harry C. Claiborne, of the Cal-Aero (Grand Central) School for use in instructing Flying Cadets, is attracting much attention at the Air Corps Training Detachment at Glendale, Calif.

With a table top painted to resemble the airport, Captain Claiborne's device has miniature airplanes mounted on wire tracks above the "airport." These are set in any desired flight pattern and the cadets, before going aloft, are shown on this graphic miniature just how they should fly in the day's exercise.

Both safety and speed in explanation are claimed for the ingenious device which is attracting considerable professional notice.

The Flying Cadets from the detachment at Cal-Aero (Grand Central) Flying School made their first public appearance at the Los Angeles National Defense Week aviation day program.

Smartly attired in their blue uniforms with gold insignia, the Cadets attracted considerable newspaper attention, and a rapid rise in inquiries about enrollment was noted at the detachment during the following week.

Also at the program was the Flying Cadet Examining Board, headed by Major Elmer E. Adler, which had just completed its visit to Los Angeles. Arriving in its B-18A flying office, the Board spent three hours at the exercises, during which hundreds of questions were answered for prospective cadets. During the afternoon, Major Adler spoke for twelve minutes on a coast to coast radio broadcast, outlining the possibilities for young college graduates in the Air Corps.

With 48 Flying Cadets reporting, Class 40-F set a new all-time high mark at Grand Central Flying School, Glendale, Calif., the previous high mark being 38 Cadets in Class 40-E. Four more PT-13A airplanes have been assigned to the detachment, making a total of 24, and one more instructor has been engaged, bringing the total to 14.

Cal-Aero Corporation is the new official name of Grand Central Flying School, one of the nine "Little Randolphins" at Glendale, Calif. The name is the only change in the set-up, which is headed by Major C.C. Moseley, a former Air Corps officer of World War service.

Scarcely had Lieut. Commander Bert Creighton, U.S.N.R., become settled as

an instructor of Air Corps Flying Cadets at the Cal-Aero Corporation Flying School Detachment, Glendale, Calif., than he was called to active duty with the rank of Commander. Oddly enough, Commander Creighton goes from instructor of Army Air Corps Cadets to the duty of Cadet Procurement Officer for the Navy at Seattle.

Replacing Commander Creighton at Glendale is ensign E.O. Carmody, who comes from three years' duty with fighting squadrons aboard the Carriers YORKTOWN and RANGER. He was a member of the Navy's acrobatic team at the National Air Races in 1937, and began his career in aviation at Pensacola.

The Flying Cadet Examining Board, headed by Major Elmer E. Adler, Air Corps, returned to Los Angeles, Calif., on February 19th for sessions of a week to ten days at the University of California at Los Angeles (U.C.L.A.).

Earlier in the month, during a one-day session at the University of Southern California, nearly 300 applicants were enrolled and examined by the Board, which then returned to Hamilton Field until after final examination periods were concluded in the Southern California colleges.

An intensive publicity campaign, conducted by the Public Relations Department of the Cal-Aero Flying School in cooperation with Major Adler during a period of several weeks prior to the Board's arrival, evidently paid dividends, for at its first session the Board was subjected to a barrage of flash bulbs by cameramen from Los Angeles papers and full-page displays of pictures were published.

Major Adler also was invited to appear over several radio stations and, as a result of all the publicity, the Board was forced to send an SOS to Hamilton Field for three more flight surgeons to help with the physical examinations.

New Insignia for Advanced Flying School (Continued from Page 10)

shoulder loops of service blouse and olive drab shirt, on front of service hat, on the field cap (flight cap), and on lapels of the white military mess jacket.

The 6th Bombardment Squadron, Langley Field, Va., recently organized a Squadron Mathematics School, under supervision of 2d Lt. Earl B. Cook, Air Reserve. The 20 students attending this School are preparing themselves for entrance to the Technical School. Sgt. W.T. Barrons is an instructor at this school.

COLONEL HARTNEY WRITES A BOOK

Thrilling incidents in the air during innumerable air duels with enemy flyers over the front lines in the World War days is ably told by Lieut. Colonel Harold E. Hartney, former Air Service officer, author of a book just off the press and entitled "Up and at 'em."

During those stirring days, Colonel Hartney commanded the First Pursuit Group, which included the 27th, 94th, 95th and 147 Pursuit Squadrons, the 185th Night Pursuit and 4th Air Park. This Group brought down 285 enemy planes and balloons, of which 201 were officially confirmed, and lost 72 of its own pilots in doing it. On the roster of this organization were the names of men who achieved undying fame, including the "Ace of Aces," Eddie Rickenbacker and the late Frank Luke, styled the "Balloon Buster of Arizona."

The book is of such absorbing interest that it tends to keep the reader on edge all the way. One wonders why Colonel Hartney delayed so long in presenting to the American public a book so rich in true adventures of airmen in combat.

In his introduction, Colonel Hartney states that the real purpose of his book is to show young Americans what war is like and to show older Americans some of the mistakes we made, which must never be repeated, and how to avoid them. He then goes on to say:

"I hope this book will be of particular interest to the thousands of young men now in American aviation and those coming in. In plain soldier language it will give them a sketchy picture of what to expect in the forthcoming hostilities - some of the excitement, some of the errors that kill off young flyers, some of the rules that must be followed. It is a glorious branch of service but it is no picnic and with the great advances in aviation since the World War it will be even more dangerous and harder work but with still plenty of opportunity for the courageous, serious-minded, individualistic youth who wants to defend his country from the air. And no youth who is not courageous to the point of daring and serious-minded almost to a point of studiousness should ever try for a flying commission. It is a man's work and for the right type of man only..."

Colonel Hartney commanded the First Pursuit Group from August 23, 1918, to the end of the War, during which period this organization participated in the St. Mihiel and Argonne-Meuse offensives.

Prior to being commissioned a Major in the Aviation Section, Signal Corps,

September 15, 1917, he served from October 31, 1914, to October 21, 1915, with the Canadian Expeditionary Forces, and thereafter with the British Royal Air Force, and held a commission as 1st Lieutenant and later as Captain. During his service with the Allied and American Air Forces he was credited with the destruction of six enemy planes, thus entitling him to the unofficial designation of "Ace." Among the decorations he received for valor were the Italian Silver Medal, the American Distinguished Service Cross, and the French Croix de Guerre with palm.

Colonel Hartney was commissioned a Captain in the Air Service, Regular Army, on September 17, 1920. He resigned his commission on October 19, 1921, and affiliated himself with commercial aviation. He is now connected with the Civil Aeronautics Authority in Washington, D.C.

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NEW OFFICERS' CLUB AT FRANCE FIELD

The Commanding Officer's old set of quarters on the water front at France Field has been transformed into just about the finest club on the Isthmus, according to the News Letter Correspondent. He adds that credit for the fine job is due in great measure to Lieut. Jack Carter, who had plenty of headaches and lost several bets as to when it would be completed. He won, however, the best bet by completing before the first of January the most comfortable and coolest club in Panama.

The front of the old quarters was torn down and a veranda, the width of the entire set of quarters, extending to the flag pole, was built on. This gives a fine dance floor, which is surrounded with plenty of space for tables and chairs. The old living room makes a fine reading room and serves excellently as space for the serving tables for the Saturday noon lunches and buffet suppers. The upstairs has been divided into rooms for the ladies and their bridge and Mah Jong games; and the "B-18 Cabin for men only" serves as a game room and for Spanish classes.

New rattan furniture has been purchased and placed throughout the Club. The old piano has been tuned, and it is a real pleasure after a hot day to relax in a comfortable chair in the coolest spot on the Isthmus, and quaff a cool drink as you look out to sea and count the days until you too will be heading through that old breakwater for home.

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GRADUATIONS FROM TECHNICAL SCHOOL

On February 16th, 36 students graduated from the Airplane Mechanics course of instruction at the Chanute Field Branch of the Air Corps Technical School. Of these graduates, one is stationed at the Sacramento, Calif., Air Depot, one at Hamilton Field, Calif., and the remaining 34 at Chanute Field.

A week later, on February 23rd, a total of 52 men graduated from the Chanute Field Branch of the Air Corps Technical School, 39 as Radio Repairers and Operators, 9 as Aircraft Machinists and 3 as Link Trainer Specialists. These graduates came from Air Corps stations as indicated below:

Radio Repairers and Operators

Barksdale Field, La.: Privates Frank M.

Allen, Robert W. Bloch, Harry J.

Broadhurst, Jr., Jord B. Claiborne,

Richard A. Gee, Charles M. Hall,

Jesse B. Hepler, Lowery L. Jackson,

Paul E. Lawrence, Thomas F. Murphy,

Dickie Robbins and Joseph A. Savuto.

Fort Sill, Okla.: Staff Sergeant Harry

J. Garvey.

Chanute Field, Ill.: Privates Earl

Becker, Oliver N. Fellwock, William

D. Holford and Edgar H. Whittmann.

Hamilton Field, Calif.: Privates Jerome

F. Brabec, William M. Knudsen, Edward

O. Harrison, Melvin C. Sharp.

March Field, Calif.: Privates Ward K.

Cadwalader, George F. Meyer and

George B. Potter.

Moffett Field, Calif.: Privates

George R. Cardin, Harmon J. Hochstet-

ter, Elwood F. Ingledue, Lawrence F.

Kalnoskas, Harvey T. Kolstad, Frank

J. McGraugh, Leo J. Miller, George A.

Nixon, Carl G. Pratt, Jr., Frederick

V.W. Switzer and Johnny R. Thurston.

Maxwell Field, Ala.: Pvt. Leroy A.

Warner.

Philippine Army Air Corps: Private

Vicencio G. Sanchez.

Aircraft Machinists

Selfridge Field, Mich. Private Byron B.

Borgman.

Barksdale Field: Private Aaron Byrd.

Scott Field, Ill.: Private Norman W.

Harpin.

Moffett Field, Calif.: Private

Hueston N. Jones.

Maxwell Field: Private Wm. T. Kitchens.

Mitchel Field, N.Y.: Private Walter L.

Page.

Bolling Field, D.C.: Private John A.

Szlachetka.

March Field: Private Arthur J.

Tanturri.

Lowry Field, Colo.: Basil C. Wright.

Link Trainer Specialists

Langley Field, Va.: Corporals Gilbert

L. Gilliland and Clifford Hughes.

Chanute Field: Sgt. Howard L. Beickell.

Selfridge Field, Mich.: Sergeant Wood-

row Wilson.

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CADETS TO PARTICIPATE IN MANEUVERS

The Hon. Harry H. Woodring, Secretary of War, announced under date of March 11th that it is planned, upon graduation from the Air Corps Training Center at Randolph Field, Texas, of the present class of 225 Air Corps Flying Cadets now undergoing training, to assign them to ground units of the Third Army for approximately three weeks of temporary duty during the forthcoming maneuvers.

It was explained that the purpose of this action is to familiarize these newly commissioned Reserve officers with the operations, tactics and technique of the ground forces during the field maneuvers and thus give them the practical military background and experience essential to a full and complete understanding of the operations of the ground forces with which they must operate in actual combat.

Of the 225 students expected to graduate in this class, 8 are seconded lieutenants of the Regular Army, detailed in the Air Corps, and the remaining 217 will have received their commissions as Air Corps Reserve officers only upon the day of graduation from the Air Corps Training Center.

It is contemplated that the class will leave the Training Center about March 24, 1940, and be relieved from duty with the Third Army about April 19, 1940.

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NEW COMMANDER FOR BROOKS FIELD

Major Stanton T. Smith, commanding the 46th School Squadron, Randolph Field, Texas, on February 21, 1940, received War Department orders placing him in command of Brooks Field, Texas.

A graduate from the flying school at Brooks Field on May 22, 1918, Major Smith has had a varied and distinguished career in the Army Air Corps. Says the News Letter Correspondent: "Every one who knows his (Major Smith's) dynamic energy and ability realizes that Brooks Field will benefit greatly under his leadership."

"The 46th School Squadron has been under Major Smith's command since 1935. As an expression of the high esteem the officers and men under his command gave a squadron farewell supper in his honor."

"First Lieut. Gerald Hoyle, former administrative inspector, has assumed command of the 46th since Major Smith's transfer."

V-8396; A.C. asw

CONSTRUCTION PERIOD II - CANAL ZONE, 1939.

By Lieut. Colonel F.M. Brady, Air Corps

Construction Period II of the Canal Zone is slowly gaining momentum. The defensive establishments for the entire Canal Zone, together with facilities, housing and messing for the enlarged construction crews, are taking shape.

Air Corps officers and men with service in the Canal Zone prior to September, 1939, would have difficulty in recognizing the "old" stations of France and Albrook Fields or the gunnery camp at Rio Hato (the site of the new air base to be known as Howard Field) which little resembles the area formerly known as Bruja Point or Fort Kobbe reservation. The tropical growth has been cleared away from the hills to the north of Albrook Field and the site prepared for construction of about 200 sets of officers' quarters. The building area to the northwest is ready for foundations for about 200 noncommissioned officers' sets. In the barracks area temporary housing and messing facilities for about 1,200 men will shortly be completed for the enlarged Albrook Field garrison. At France Field, similar work is nearing completion. The new Rio Hato establishment, with the main buildings located on a bluff overlooking the sea and beach, is now ready for the operations of a Group, with two landing fields available.

The changes in the Air Corps in the Canal Zone, however, are not confined to improvements in facilities nor increased strength in personnel and equipment. The mission of the military forces in the Canal Zone has been the primary consideration in orienting the Air Corps activities. From day to day, as facilities are developed, as personnel is increased, and as state of combat efficiency is raised, "emergency" plans are modified and extended.

In connection with the development and solution of the problems, officers of other arms in the Canal Zone, and the Naval air units at Coco Solo, have been most cooperative. General Sanford Jarman, Commanding the Panama Provisional Coast Artillery Brigade (AA), and Colonel Watts, the Panama Canal Department Signal Officer, have discussed their specialties, and the Naval Air Station personnel aided with technical advice in the problems involving Naval forces.

In the preparation of problems for the conferences and the drafting of solutions, the 19th Wing is particularly fortunate in having General Dargue. The 19th Wing Commander is a graduate of both the Army and Navy War Colleges, was director of the Air Corps Tactical

School and largely responsible for the development of the Naval cooperation course included in the curriculum of that institution. In addition, he has had extended experience in Air Corps tactical units and "cruises" with the Navy. Consequently, he is especially well qualified to conduct this "school" work and also impart information based on practical experience.

So while casual inspection of the Canal Zone may indicate concentration of energy on the building program and reorganization and activation of air units in the Expansion Program, the "mission" of the 19th Wing is not being slighted. Upon conclusion of the conferences, the commitment of solutions to field and operations orders, and actual tests under existing conditions, the Air Force in the Canal Zone will be prepared for any emergency. Each individual should know not only his job, but the part being played by his co-workers in the squadron, group, wing, and the cooperating forces in the Army and Navy. And so Construction Period III of the Canal Zone will mean more to the Air Corps personnel than new barracks or quarters, or a new base; they will have an appreciation of the job set up for the defense forces and particularly the Air Corps.

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COLOMBIAN OFFICERS VISIT ALBROOK FIELD

Albrook Field, Canal Zone, was host to ten officers of the Colombian Air Force, who arrived there from Bogota, Colombia, February 19th for the purpose of taking physical examinations prior to entry in the Air Corps Training Center, Randolph Field, Texas. The visitors made the trip to Panama in a Junkers tri-motor airplane.

After completing their examinations, they were taken on various tours of the Panama Canal Zone by 2nd Lieut. M.H. Hays, Air Corps, who acted as liaison officer. They spent much of their time inspecting the engineering and supply shops of Albrook Field, where explanations were given as to the workings of these departments.

Several receptions and dances were given in their honor, including one by the 19th Wing Commander, Brigadier General Herbert A. Dargue, and Mrs. Dargue, at their home. Several shopping tours in Panama City and at various post exchanges of the Pacific Sector were arranged for them. During their visit they were quartered at Corozal and had their meals at the Officers' Mess.

COLOMBIAN TROPHY GOES TO 2ND BOMB GROUP

The Second Bombardment Group (Heavy), at Langley Field, Va., has been selected as the 1939 winner of the Colombian Trophy, awarded annually to the Group in the General Headquarters Air Force which maintains the lowest accident rate per thousand flying hours.

Major Edgar E. Glenn, Intelligence Officer for the Second Wing, stated that the award will be made to the Bombardment Group at a later date by the Commanding General of the General Headquarters Air Force, Major General Delos C. Emonds.

The Third Attack Group at Barksdale Field, La., won the Trophy for the years 1936 and 1937, while the winner for the following year was the 19th Bombardment Group of March Field, Calif.

The Colombian Trophy was first presented in 1935 by Major Benjamin Mendez, one of the foremost flyers of the Colombian Army, to Major General Frank M. Andrews, then Commanding General of the G.H.Q. Air Force, as a symbol of the friendship between the Republic of Colombia and the United States and the bond between airmen of all nations.

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NOTED EDUCATORS INSPECT RESEARCH LABORATORIES AT WRIGHT FIELD

Twenty members of Ohio State University's faculty visited Wright Field on February 20th. Following a welcome by Lieut. Colonel Oliver P. Echols, Assistant Chief of the Materiel Division, and Lieut. Colonel Lester T. Miller, Commanding Officer of Wright Field, the day was spent inspecting the research laboratories, with short interruptions for press interviews and pictures and noon luncheon.

Dean Charles E. MacGuigg, of the Ohio State University College of Engineering, was leader of the group. He stated that Wright Field representatives had recently inspected the university campus and were interested in research agencies there. His group in turn were interested in research methods and problems at Wright Field.

The departments of Ohio State University represented in the tour of inspection included: the college of engineering, research education, military science, college of arts and sciences, department of psychology, department of mechanical engineering, the experiment station, department of chemistry, surgical research, industrial engineering, civil engineering, electrical engineering, and department of metallurgy.

Captain Thomas L. Thurlow, Equipment Laboratory, was in charge of arrangements for the guests.

ESSAY CONTEST AT WHEELER FIELD

At the instigation of the Base Publicity Officer, 1st Lieut. Kenneth P. Berquist, the recruits undergoing training in the Wheeler Field, T.H. Recruit Camp in December, 1939, participated in an essay contest. The two best essays were selected for publication. One of them, under the title of "Why," by Robert Albert C. Loveland, is given below, as follows:

It seems almost natural for me to be in the Army of the United States. I don't know my old ancestor, who was a paymaster in the First Continental Army, would be proud to see me wearing the uniform of the country he gave so much for. My uncle, a Lieutenant of the Cavalry, who gave his life for the preservation of the Union at the first Battle of Bull Run, would probably commend me highly. Another uncle did his share for Old Glory as a Captain in the Spanish-American War, and a brother saw his share of duty on the high seas in the Great War.

Now I sport the more up-to-date uniform of the country they sacrificed so much for, and no one can say I'm not proud. No amount of adverse criticism could ever change my mind in this respect for, after all, the uniform we wear is just exactly what we make it in accordance with our conduct, bearing and general attitude.

Back in the days when our ancestors were outlaws - rebels, anyway, in the eyes of England - no soldier could possibly conceive the solid comforts of the surroundings of a 20th Century soldier. When we stop to think of the privations those men suffered in lack of clothing, food, shelter, weapons, transportation, and other items, we should be a bit ashamed to recall that just yesterday we raised the "merry devil" because there was no hot water in the showers and we had to march to the hangar in the rain to hear a lecture.

Too many men think of the Army as a place of retreat from earthly responsibilities - a place where they receive their \$21.00 a month, have their food, clothing and a place to sleep furnished, and expect to have Uncle Sam take care of them completely. This, in my estimation, is a drastic misconception. Poor descendants we are, indeed, if we expect our country to keep us in comfort while we do nothing to repay her kindness.

Here we are given so many opportunities to learn so many things. Why not show our appreciation through strenuous application?

Ed. Note: The other essay, by Robert F. McDermott, appears on page 17. Again

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This question might well be asked by any recruiting officer, from behind his desk. Acting as your friendly advisor, he will carry on a frank, courteous conversation with you, as a prospective recruit. He will discuss the various physical, educational and character requirements a potential Air Corps recruit must meet.

You will then be given an application with questions to be answered concerning yourself. It will also contain blanks for two people who know you to vouch for your character. Having completed this, you will return the application to the recruiting office, where you will undergo a physical examination. If you are up to par you will be sworn in the service with a group of men also enlisting and assigned to the Air Corps Hawaiian Department in a recruit depot.

Assuming that you live in the New York area, you will board a train at your home town, all expenses paid, and enjoy a ride to New York City.

There you will board another train to New Rochelle, on Long Island Sound. After a brief boat trip, you will land at Fort Slocum, where you will await the arrival of your sailing date.

There competent instructors will teach you the rudiments of military drill and discipline, which will prove invaluable to you when you arrive in Hawaii. During this period friendships will be welded that will endure for years to come.

One morning, you, with many other soldiers, will board the harbor boat for a fine trip down Long Island Sound to the Army Transport docks. You will pass under the newly completed Whitestone Bridge, the famous Brooklyn Bridge, through Hellgate and by the world renowned New York skyline. The great, green Statue of Liberty will be in full view as the boat turns to steam toward the docks.

At the Army Transport pier you will pause, answer your name and climb the gangplank to the transport. Once located in a specified squad room, you will return on deck to witness the excitement of "shoving off."

When the last whistle blows amid the raucous noise of the machinery and the crowd, a tug will shove the transport into the harbor.

As the Statue of Liberty disappears over the stern you will settle down to the business of becoming acclimated to the many diversions of life on board ship.

That night and practically every night moving pictures will be shown on

deck for you to enjoy at your leisure.

A few short days will find you in the warm blue waters of the Gulf Stream. Hosts of flying fish will break from under the bow, flying in plain sight until they flutter aimlessly into the blue. You will see scores of porpoises rolling and bounding in the pearly spray in their tireless efforts to keep abreast of the ship.

There may be days when, with the salt spray on your lips, you will view the long curling waves of an angry sea. When waves will be hurled unmercifully at the side of the ship as she plunges toward her goal.

One day all will crowd the rail to view San Salvador, as it looms on the clear blue horizon and you will know that the ship is in the Crooked Passage. Several of the Bahama Islands will be seen during the course of the day.

Haiti, in all its mountain glory, will be in full view as the ship enters the Windward Passage between Cuba and Haiti. The rugged panorama of the tropical mountain island jutting above an azure sea will be long remembered.

As Haiti disappears from view your grip on the rail will perceptibly tighten momentarily, as you will know that you are in the great blue Caribbean Sea. That is the proverbial sea of splendor, shrouded with mystery and fear in the early days of sailing.

Before you know it, a group of Army planes will circle overhead as a gesture of welcome to the soldiers arriving by ship. Then in a short while you will see Cristobal and the mainland resplendent with bright green foliage and buildings in the foreground.

Felicans, gulls and man-of-war birds will glide leisurely over the rigging as you hear the first strains of the band on shore.

As the ship is made fast, scores of longshoremen will scramble aboard to begin the task of unloading and taking on cargo. To watch them work is to witness a group skilled in the performance of their duties, handle heavy loads with amazing speed and clocklike precision.

Once ashore on leave, you will walk along an avenue lined with Royal Palms to Colon. This is truly a soldiers' town. Laughter and gaiety will prevail as you amble past restaurants filled with smiling faces. You will see peddlers hawking their wares of brilliant scarfs and handkerchiefs, souvenirs for the folks back home.

Parts of the city with long rows of quaint, unpainted, frame buildings

blended with bright tropical foliage, present a sight that is unparalleled.

All good things must come to an end, however, so you will hurry back to the boat, board and wait its departure for Balboa. As you leave Colon and enter the heavily guarded locks of the Panama Canal, you will witness one of the greatest engineering feats the world has known. Small electric donkey engines, with cables attached to the ship, will tow you through the locks and over ground where men gave their lives so that others might save the time and danger involved in going the long way around.

You will pass thru Gatun Lake, where lush foliage creeps to the water's edge and bright tropical birds abound. As the ship eases on to Balboa, you will marvel at the beauty of the Canal and man's ability to build it. At Balboa you will go ashore and, after a brief visit through scenic hills, you will step off in Panama City. This might, but for its geographic location, be a bit of old Spain. The old cathedral of Spanish architecture, with its padre dressed in a long black robe and wearing a flat, wide-brimmed hat, looks for all the world like a church in Spain.

Here, as in Colon, a soldier is welcome, and he will meet many Panamanians who speak Spanish. However, most of them understand enough English to assist you in getting about. You will find many parks throughout the city, one of which is a zoological park. These are havens for visiting soldiers.

Soon you will have gazed your fill, and a glance at your watch will warn you to board ship. As you ride to the docks, drinking in the last views of Panama City, you will probably be thinking of San Francisco.

Upon entering the Pacific, you will pass Zoboga Island, which resembles a volcano jutting from the sea. The trip from Balboa up the coast in the warm sea air will be a delightful one. Old mother nature proffers sunsets over the Pacific that are breath-taking. As the sun nears the iridescent water, the sky takes on the appearance of a maze of brilliant colors spilled from an artist's palette and blended as only nature can blend them.

Your evenings will be occupied by attending boxing matches, amateur shows, minstrels, motion pictures, or just lolling about the decks in the moonlight.

You will next see the rugged coast of Mexico and Lower California. Here in the shadows of land many sea turtles appear on the surface close to the ship, and they paddle lazily on their way. However, San Francisco beckons as your ship pushes on up the coast.

A trim little pilot boat will pull alongside to put a pilot on board as you prepare to enter San Francisco Bay through the Golden Gate. The first sight to strike your fancy will probably be the famous Golden Gate Bridge, which spans the entrance to San Francisco Bay. As your transport pulls into the dock, Alcatraz Island, more affectionately known to its inmates as "The Rock," will be in plain sight. In a short time you will have disembarked, and boarded a small boat for Fort McDowell on Angel Island, in San Francisco Bay. En route you will pass within a stone's throw of Alcatraz.

Angel Island is quite large and having a contour of a mountainous nature makes it seem larger. While laying over there for a few days you will probably wander to the top and view San Francisco and the Bay as a splendid panorama below you.

You will be granted leave to visit San Francisco. There you will find a city that has everything in the way of entertainment and points of scenic interest that you could desire.

Just as you have fairly settled down at Fort McDowell, you will pack your barracks bag for the last leg of the journey. Once again you will board the transport, and in a short while the Golden Gate will be lost over the horizon.

This brief leg of the journey will pass in no time, as you will be preoccupied by the many diversions on board ship. One morning you will come on deck and see Diamond Head and Honolulu. Then you will realize, as you gaze at the superb beauty of the island, why these islands are called the Paradise of the Pacific. There before you will be Pearl Harbor, and as your transport docks under her own power you will see a crowd bedecked with leis and hear of the welcoming strains of the band.

All around you will see the rich green tropical plants and trees, interspersed with the buildings, and in the background you will see mountains reaching a clear azure sky.

When you raise your barracks bag to go ashore, you may turn to a friend and say: "Well, I'm glad I came, aren't you?"

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The squadrons of the 6th Bombardment Group, France Field, Panama Canal Zone, started their annual bombing and gunnery practice under field conditions at the Rio Hato Gunnery Camp. Starting February 28th, the 25th Bomb. Squadron was scheduled to encamp there to March 15th, to be followed by the 3rd Bomb. Squadron from March 16th to 30th, and the 7th Recon. Squadron, March 31 to April 15.

ADVANCED FLYING SCHOOL ACTIVITIES

Colonel Ira A. Rader, Air Corps (Inspector General's Department), began his inspection of Kelly Field, Texas, at exactly 8:30 on February 24th, when he arrived at the east end of the east-west runway on which all personnel of the Field were prepared for inspection. Colonel Rader inspected each of the 2,000 men formed along the mile runway personally, and was definitely pleased with the fine showing of the recruits. Units were on line along the southern edge of the east-west runway facing north. Beginning at the right, or east, organizations were formed in the following order: Captain J.H. Bundy and instructors, I Section; Captain R.E. Choate and the 61st School Squadron; Captain J.A. Ellison and instructors, II Section; Captain Leroy Hudson and the 62nd School Squadron; Flying Cadet Captain Henry C. Amen and the Flying Cadet Detachment; Major Albert C. Foulk and the 12th Air Base Squadron; Captain Forrest A. Hornisher and the Quartermaster Detachment; Lieut. C.A. Clark, Jr., and Headquarters and Headquarters Squadron; Captain E.R. Todd and instructors, III Section; Captain H.F. Dyer and the 63rd School Squadron; Captain W.L. Kennedy and instructors, IV Section; Lieut. Marshall Bonner and the 64th School Squadron. Personnel assigned to the 24th Air Base Squadron and attached to other organizations stood inspection with the organization to which they are attached to duty.

Immediately following the outdoor inspection of troops there was an inspection of organization barracks at which enlisted personnel were again present. The inspection of other organizations and the hangars lasted through the following week.

During the post inspection by Colonel Rader, Captain D.M. Schlatter attempted to obtain some aerial photographs of the troops prepared for inspection. He went on instruments while still on the ground and taxied due south for two minutes and then waited out on the field for the heavy fog to lift, hoping by such a maneuver to be able to take off during the inspection with a minimum of disturbance. The scheme failed, however, for after an hour and a half of cockpit time Captain Schlatter was forced to go on instruments again to return to the hangar line. He arrived out of nowhere just after the inspecting officer had passed and to the men assembled on the line his craft looked like a ghost ship taxying in. The Captain had "taken-off" long before the men were assembled and, since no plane

had been heard overhead, the surprise at his appearance is understandable.

With the large increase in the number of Flying Cadets at the Advanced Flying School, there has been a pressing need for more tactical officers to discipline the students. Colonel Lohman, the Commandant, has therefore attached five recent West Point graduates to the Flying Cadet Detachment, in addition to their other duties as Flying Instructors on the line. These men, with Lieut. W.H. Hanson, will be assistants to the Commandant of Flying Cadets, Captain John F. Wadman. They are Lts. J.D. Ryan, Section IV; B.C. Harrison, Section II; L.B. Coira, Section I; R.C. McBride, Section III; and Gregory Hoisington, Section V.

Since during the present expansion system the Flying Cadets are not under any upper class for more than six weeks at a time, this move is intended to maintain the Flying Cadet Detachment at its highest military standard.

At 1:45 p.m., February 28th, 100 enlisted men and 3 officers of the 24th Air Base Squadron left Kelly Field for Puerto Rico. This group will form the advance guard for the later arrival of many newly activated squadrons whose ultimate destination is Puerto Rico. A well timed coincidence placed a six-ship student formation on a time and distance training flight along the route of the special train as it left San Antonio for Charleston, S.C.

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EXPANSION OF CADET DRUM AND BUGLE CORPS

The Flying Cadet Drum and Bugle Corps at Randolph Field, Texas, was recently expanded to 28 members. This organization is divided into two sections, one flying in the morning and the other in the afternoon. This arrangement insures field music for the Cadet Battalion at all times, and the expanded Corps will fit nicely into the Air Corps Training Center Band which is due to be organized in the near future.

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FLOOD CAUSES HASTY EXIT OF INFANTRYMEN

Over 70 airplanes were hastily removed from hangars at Maxwell Field on Feb. 17th in order to provide temporary billets for approximately 1900 soldiers who were washed out of Eglin Field, Valparaiso, Florida, earlier that day by a torrential downpour. The troops arrived at Maxwell Field about 7:00 p.m., and

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were soon comfortably housed in the Air Corps Tactical School spacious hangars. The officers were berthed in the recently constructed new type barracks. All were also served supper from Maxwell Field mess halls promptly, and breakfast the following morning. The visitors then set up their own field kitchens.

The airplanes which were moved from the hangars were staked out on the flying field, and the motors and cockpits were covered with especially designed tarpaulins to protect them from the elements.

The 1900 soldiers comprised a reinforced Infantry regiment and was commanded by Colonel Arthur R. Underwood, Infantry, U.S.A. It is an element of the 5th Division engaged in winter maneuvers at Fort McClellan, Ala. Colonel Underwood's command consisted of the 10th Infantry, whose home station is Fort Thomas, Ky.; the 2nd Battalion, 19th Field Artillery, Fort Knox, Ky.; the 7th Engineer Battalion, Fort Logan, Colo.; the 7th Medical Battalion, Fort Sam Houston, Texas, and two platoons, Company A, 5th Quartermaster Truck Battalion (one platoon from Fort Knox and the other from Fort Benjamin Harrison, Indiana). The motor transportation employed to convey the troops and materiel consisted of about 180 vehicles of reconnaissance, pick up, prime movers, ambulances and motorcycles. They ranged in size from one-half to five ton.

One of the organizations, the 2nd Battalion, 19th Field Artillery, was organized at Fort Knox on October 5, 1939, and has been on maneuvers since its activation. Members of the battalion said no home station had been assigned it as yet. They also stated that for the present the matter of a home station was merely one of academic interest, as the outfit was to be engaged on maneuvers for at least three more months.

Unit commanders, solicitous of the welfare of their men, issued them canteen checks, which created a small sized boom at the airdrome's post exchange. The "PX" was "sardined" from the time it opened Sunday until it closed late that night. Demand for some items exceeded the available supplies.

Hundreds of the soldier visitors took a busman's holiday Sunday and gave Maxwell Field a thoroughly double O. Many others viewed Montgomery.

The column cleared Maxwell Field about 9:00 a.m. Monday for the return movement to Fort McClellan. Officers estimated that it would require about six hours for the journey.

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THE 17TH AIR BASE TECHNICAL SCHOOL

On or about December 8, 1939, an order was published establishing the 17th Air Base Technical School at Hickam Field, T.H. The hangar occupied by the 17th Air Base Flight was designated as its location. Chalk lines were drawn on the floor and classrooms laid out by estimating the amount of materials needed to close them in. A crew of carpenters was secured and the walls were erected in four days.

A Training Memorandum was received from the Wing with a directive to train 608 aircraft mechanics and 172 armorers, and word was received that the necessary texts from the Air Corps Technical School, Chanute Field, would arrive in time for the opening of the school on January 3, 1940. Instructors, scouted from the best noncommissioned officers at both Hickam and Wheeler Fields, reported for duty on December 26, 1939. The office force was secured, and the school bell rang on January 3rd for the first class. The hopes of the entire staff and personnel of the school are that the Directive will be met 100 per cent.

Captain W.A. Schulgen, Assistant S-3, is the Officer in Charge, with 1st Lt. Carl R. Feldmann in charge of the Aircraft Mechanics Course, assisted by 2d Lieut. W.S. Hindson, and 1st Lieut. Edward Flanick in charge of the Aircraft Armorers Course, assisted by 2nd Lieut. W.A. McClure.

The Aircraft Mechanics Course has been divided into 10 phases, as follows:

(1) Theory of Internal Combustion Engines - 30 hours of classroom and laboratory work, supervised and instructed by Staff Sgt. Robert E. Flesher and Sgt. Oscar A. Bradford.

(2) Elementary Electricity, 30 hours supervised and instructed by Tech. Sgt. Harry Brown and Staff Sgt. R.W. Benzie.

(3) Generators, Batteries, Starters, Control Boxes, Solenoids and Magnetos, supervised and instructed by Tech. Sgt. Norvell Chaudron, Staff Sgts. Bonnie B. Nabors and Wm. J. Finnegan.

(4) Fuel Pumps, Carburetion, Superchargers, Lubrication, Fuel and Oil Pumps, Cooling; a 48-hour course, supervised and instructed by Staff Sgts. Melvin Norum, John C. Moran and Sgt. Warren J. Garriga.

(5) Landing Gears, High Pressure Pumps and Hydraulic Systems; a 30-hour course, supervised and instructed by Tech. Sgt. Jean Nielsen, Staff Sgts. Thomas E. Keahy and C.W. Welman.

(6) Instruments and Vacuum Pumps; a 30-hour course, supervised and instructed by Staff Sgts. Tom Mauchline and George L. Hilton.

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(7) Propellers; 30 hours, supervised and instructed by Tech. Sgt. Bud R. Brechtel and Staff Sgt. E.J. Collins.

(8) Disassembly and Assembly of Engines, Spark Plugs, Ignition and Valve Timing; 60 hours, supervised and instructed by Master Sgt. Akers, Staff Sgts. James P. Pendleton, Howard T. Nutting, A.W. Calcote and Sgt. Dominic J. Giacomini.

(9) Trouble Shooting; 42 hours, supervised and instructed by Staff Sgts. A. A. Gaudry, David D. Lawrence and Pvt. John C. Haynes.

(10) Air Corps Forms and Technical Regulations and Forms; 30 hours, supervised and instructed by Master Sgt. Frank J. Birk and Staff Sgt. W.W. Cavaleri.

Equipment and tools were procured from the Hawaiian Air Depot. A portion of the hangar will be used as an engine disassembly and assembly shop.

The school was started with 23 students beginning the first phase of the Mechanics Course and 13 the Armorers Course. The program to be followed was that each week the same number of students will be enrolled in the Mechanics Course, and the same number every other week in the Armorers Course. The full capacity of the school was scheduled to be reached on or about March 29th, the date of graduation of the first class. Each week thereafter another class will be graduated until such time that a total of 608 engine mechanics and 180 aircraft armorers have completed the courses of instruction.

The Aircraft Armorers Course is divided into eleven phases of instruction, lasting 12 weeks. The phases are:

(1) B.A.M.G., 30 cal. M-1 and M-2, laboratory and lectures, 30 hours, supervised and instructed by Staff Sgts. Andrew Guastafarro and J.R. Icenogle.

(2) B.A.M.G. 50 cal., M-1 and M-2, Harmonization, accessories and spare parts, safety precautions, lectures and laboratory, 30 hours, same instructors as in (1).

(3) Elementary Electricity and Synchronization, 30 hours, supervised and instructed by Staff Sgts. James H. Graham and Roy M. Crawford.

(4) Sight Harmonization (fixed), Pistol, 45 cal., shotgun, 12 gauge and camera guns, a 30-hour course, same instructors as in (1).

(5) Bombs, Fuzes, Detonators and Accessories, Small Arms and Ammunition, Pyrotechnics, C.W.S. Equipment, 30 hours, supervised and instructed by Sgts. Floyd E. Meador and Ernest E. Fields.

(6) Bomb Racks, General, B-18 Bomb Racks, N-3, A-3, Bomb Racks, Tow Reels and Targets, Flare Racks, Review, su-

pervised and instructed by Staff Sgts. Kenneth Christie and Edward Nadzeika.

(7) Regulations, Manuals, Circulars, Forms and Reports, Review of B.A.M.G. 30 and 50 cal., Synchronization, Harmonizing, Pistol, Shotgun and Camera Guns, Bombs, Pyrotechnics, CWS Equipment, Bomb and Flare Racks, Tow Reels and Targets, Forms and Reports, 54 hours, supervised and instructed by 1st Lt. Edward Flanick and Staff Sgt. A. Guastafarro.

(8) Maintenance and Repair of P-36, O-47, A-12 and B-18 Armament (To be accomplished at both Wheeler and Hickam Fields), supervised and instructed by instructors of subjects to which they pertain.

(9) Fuzing, Bomb and Ammunition Loading, A-12 and B-18. Operation of Tow Reels, Folding Targets, Installing and Operating Pyrotechnics; Operation of K-3B Camera and Adjustment of Gun Camera, Ordnance Maintenance, Storage of Ammunition (Hickam Bomb Dump).

(10) Eleventh week, Skeet Shooting and Operation of Traps (Hickam Field Skeet Range); Ground machine-gun firing (Fort Kamehameha range); Firing aerial machine-gun on ground mount, harmonizing sights with actual firing (Fort Kamehameha range); Firing at ground targets from airplanes on ground (Bellows Field); Firing at Balloons from airplane on ground (Bellows Field); Firing at towed target, .50 cal. A.M.G. (Bellows Field); Harmonizing sights on synchronized guns, 30 and 50 cal. (Bellows Field).

(11) Chemical Warfare Training by Colonel Carl L. Merriott. Review of all subjects by Chief Instructor and Assistants. Final Examination.

Both the Aircraft Mechanics Course and the Armorers Course cover an instruction period of 12 weeks. The Wheeler Field Technical School was also supplied with instructors from both fields.

Mock-ups, charts and equipment have been set up in the various classes. Latest materials available have been procured from various sources.

The office personnel, consisting of Sgt. Louis Cohen, Corp. Casimir A. Wykowski and Privates Robert Becker and Frederick O. Harris, under the supervision of Staff Sgt. A.W. Calcote, are handling the preponderance of correspondence and record sections. Staff Sgt. Charles W. Fisk is Base School Technical Supply Sergeant.

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Colonel Harvey S. Burwell has been relieved from assignment and duty at March Field, Calif., and assigned to duty with the Air Corps in the Hawaiian Department.

O B I T U A R I E S

Major Devereux M. Myers, Air Corps, and Corporal Maurice E. Melvin were both killed in a crash of an A-17A Attack airplane, 4½ miles northeast of Sharon Springs, Kansas, while on a training flight on March 10th from Albuquerque, New Mexico, to their station at Lowry Field, Denver, Colo.

Major Myers was born at Petersburg, Va., May 23, 1887, and was educated in his native city. Shortly following America's entry into the World War, he joined the Reserve Officers' Training Camp at Fort Myer, Va., and, upon the completion of the 3-month period of instruction, August 14, 1917, he enlisted in the Signal Enlisted Reserve Corps and was ordered to the School of Military Aeronautics, Cornell University, Ithaca, New York, for his ground training. When he graduated on October 27, 1917, he was transferred to Selfridge Field, Mt. Clemens, Mich., for his primary training and, on December 20, 1917, to Gerstner Field, Lake Charles, La., for his advanced flying training, which he completed on February 6, 1918, when he was commissioned a second lieutenant in the Aviation Section, Signal Reserve Corps. He remained on duty at the Pursuit School at Gerstner Field until July, 1918, when he was transferred to Bolling Field, D.C., for duty as flying instructor. Returning to Gerstner Field on December 13, 1918, he remained there until February 10, 1919. Thereafter he served as primary flying instructor for brief periods at Love Field, Dallas, Texas, and at Ellington Field, Houston, Texas. For a period of approximately two years he was engaged, first, in Mexican border patrol flying, and later was on duty as Commanding Officer of the 96th Squadron at Kelly Field, Texas.

From September, 1921, to May, 1923, Major Myers was stationed at Langley Field, Va., and thereafter, up to the latter part of 1927 at Phillips Field, Aberdeen Proving Ground, Md., when he was on duty with the 49th Squadron. At his next station, in the Philippines, he served for nearly three years. He returned to Phillips Field on November 15, 1927, served thereat until January 17, 1928, and then at Bolling Field until February, 1931. He was stationed at March Field, Calif., to December 4, 1934, and at Hamilton Field, Calif., to February, 1938, when he was transferred to Lowry Field, Calif., to aid in the establishment of the Denver Branch of the Air Corps Technical School. He is survived by his widow, Mrs. Marjorie D. Myers.

Corporal Melvin was born at Knoxville, Ill., October 3, 1911, and served in the enlisted ranks for approximately eight years. He was a member of the 21st Air Base Squadron at Lowry Field, Colo.

1st Lieut. Clark N. Piper, Air Corps, lost his life in an airplane accident while flying a P-35 airplane four miles northwest of Wright Field, Ohio, on the afternoon of March 12, 1940.

Lieut. Piper, a graduate of the U.S. Military Academy in 1930, was born in Paris, Ill., August 18, 1905. Prior to entering the Military Academy, he attended the Rose Polytechnic Institute at Terre Haute, Ind., for a period of three years.

Assigned to the Air Corps for flying training, Lieut. Piper graduated from the Primary Flying School, Brooks Field, Texas, June 30, 1931, and from the Advanced Flying School, Kelly Field, Texas, where he specialized in Pursuit Aviation, on October 10, 1931. He was then assigned to duty with the 27th Pursuit Squadron, 1st Pursuit Group, Selfridge Field, Mich. He graduated from the Airplane Maintenance Engineering-Armament Course at the Air Corps Technical School, Chanute Field, Rantoul, Ill., in June, 1936, and received the rating of "Superior." In the following year he graduated from the Air Corps Engineering School at Wright Field, Dayton, Ohio, and then took a year's course of instruction at the California Institute of Technology, Pasadena, Calif. Upon his graduation from the last-named institution, he was assigned to duty at the Materiel Division, Wright Field.

Lieut. Piper is survived by his widow, Mrs. Winifred Reed Piper, a 3-year old son, and his father who resides in Paris, Ill.

The Air Corps extends its deep sympathy to the bereaved families of these men who died in the service of their country.

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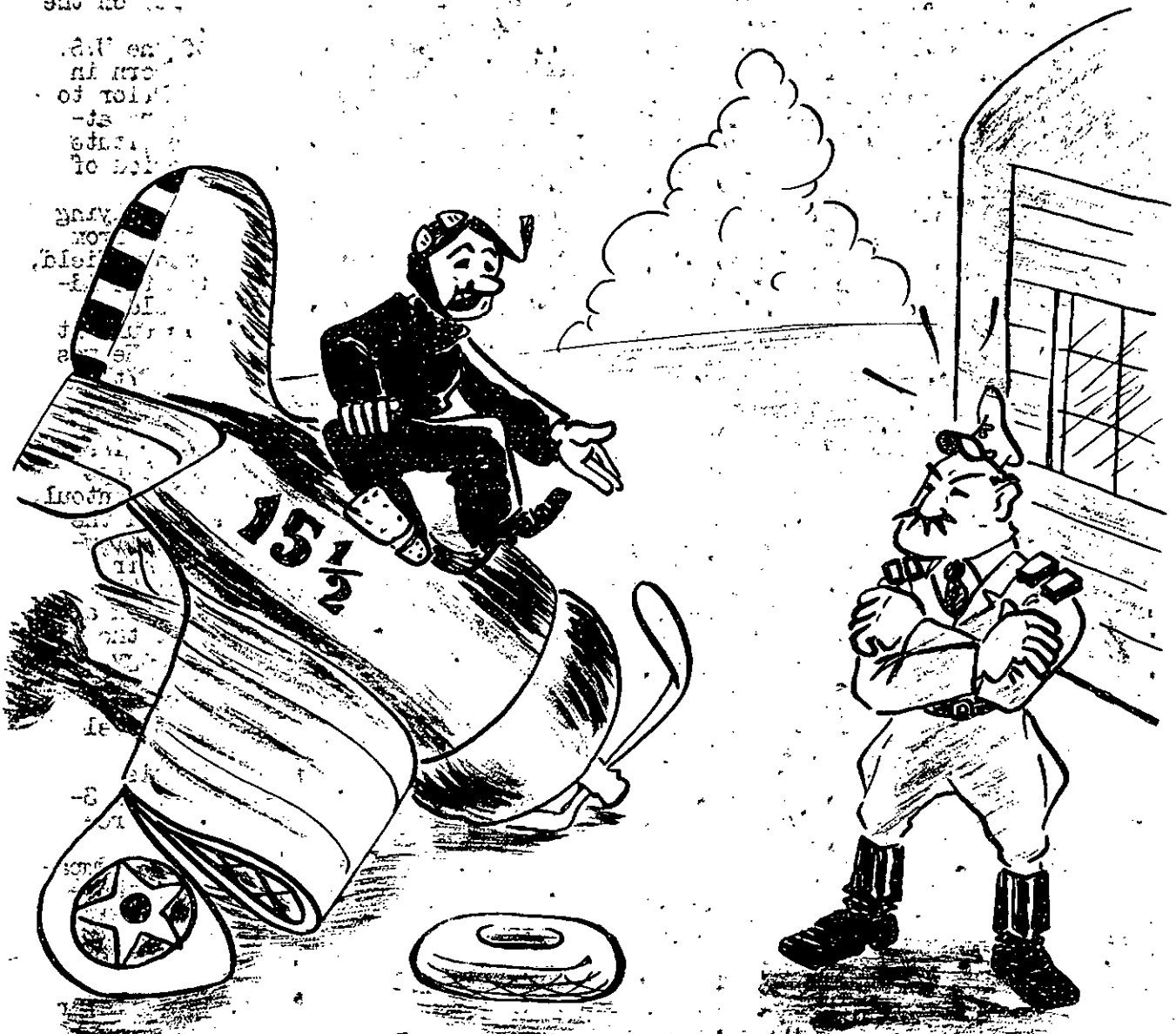
The 6th Transport Squadron - another expansion baby - was activated at the Middletown Air Depot on Nov. 20, 1939, the nucleus of the organization being drawn from the 2nd Transport Squadron. At the present time both squadrons are very close to authorized strength, and all recruits were scheduled to complete their training by March 15th. New quarters in the form of two barracks with separate mess halls are under construction and are approximately 90 percent completed. Additional C-39 airplanes have been received, and more are expected to follow shortly.

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"IT MUSTA BEEN A BANANA PEEL,
CAPTAIN!"

AIR CORPS NEWS LETTER

VOL. XXIII

APRIL 1, 1940

NO. 7

The chief purpose of
nautics to the flying personnel,
Guard, and others connected

distribute information on aero-
nautics, Reserve Corps, National

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CLAYTON KNIGHT

The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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FORT RILEY

By Captain J.B. Burwell, Air Corps Instructor

A skeleton found near Lansing, Kansas, in 1902, attracted scientists from all over the United States. Their study of the bones, the depth at which they were found, the formation of the earth strata, and the nature of the soil, placed the age of the "Lansing Man" between 10,000 and 35,000 years. Other discoveries make it practically certain that this region was inhabited by man during the glacial period. This is no news to those of us who have spent the past winter here. We know that man still occupies Kansas during the "glacial period."

Historians differ in their accounts of the exploration of this territory by the white man. Most agree, however, that the lure of gold and treasure influenced the adventurers, and that Coronado was among the first to reach this territory.

In 1530 an Indian living in Mexico started the myth of the "Seven Cities of Cibola." He claimed to have accompanied his father on trips to the land of the north, where he saw the Seven Cities. Whole streets were reported occupied by workers and shops handling precious metals. The fact that Pizarro had found rich treasures in the Peruvian Empire led people to believe the story. When the myth had grown to include "houses four stories high with jeweled doors," something just had to be done. In the spring of 1540, Francisco Vasquez de Coronado led his expedition in search of the Seven Cities of Cibola. Moving northeast, he reached the present site of Arizona in July, 1540, only to find that the Seven Cities were made up of low adobe houses occupied by poor Indians.

Some explorers can be led on by the thinnest thread of a promise. Coronado belonged to that group. Although disappointed in his search for the Seven Cities, he quickly became interested in the long-haired skin of a "cow," and started out again. Along his route to the buffalo country, he picked up an Indian guide whom he called "Turk." As they traveled the trail, Coronado was first amused and then fascinated by

Turk's tales of Quivira - "the land of gold and silver." In spite of warnings that Turk was lying, Coronado decided that buffalo was small game in comparison and set out for Quivira. A sword which is now in the Museum of the Kansas State Historical Society in Topeka, Kansas, provides reasonable proof that Coronado actually reached Kansas. The sword, found near Ingalls, Kansas, in 1886, bears the name of Captain Juan Gallego, who was a member of Coronado's expedition.

Let's leave the early explorers to wander the western plains, and look at Kansas three hundred years later. Leavenworth was then the base for operations against the Indians in this territory. Transportation to the west by covered wagon was slow and difficult, and an advanced base was needed. In 1852, a site was selected near the junction of the Republican and Smoky Hill rivers and named "Camp Center," since it was near the geographical center of the United States. A few temporary buildings were erected in 1853, and the name changed to Fort Riley, in honor of Major General Bennett Riley, who died June 9th of that year. Permanent construction was begun in 1855.

It is difficult to realize the trials and hardships attending the construction of a frontier post. Lumber, doors, windows, and hardware were bought in Cincinnati, shipped by boat to Leavenworth, and then hauled overland to Fort Riley. Rock cut from nearby hills was used for the exterior of the buildings. By the end of July, 1855, one building was finished and several others were partially completed. A cholera epidemic started and temporarily paralyzed construction activities. When hot winds had parched the green vegetation, prairie fires were a constant danger. Once started, they would sweep a large area before control was regained. Sometimes grasshoppers would appear in such numbers that they would completely devour the farmers' crops. At such times the army opened field kitchens and assisted in feeding the people until new supplies could be hauled overland.

At about this time a settler moving farther westward wrote the following message on a board and stuck it in the ground near the trail: "Toughed it out here two years. Result: Stock on hand, 5 towheads, 7 yaller dogs. 250 feet down to water. 50 miles to wood and grass. Hell all around. God bless our home."

Those interested in excellent accounts of army life at a frontier post are referred to Pride's History of Fort Riley and Custer's Tenting on the Plains.

You probably heard some of the stories told about old orders supposedly issued here. Two of the accounts run about like this: "The winner of the coming horse show will receive one barrel of the best rye whiskey" - and "Officers hunting buffalo on the parade ground will exercise due care not to fire their pieces toward the quarters occupied by the Commanding Officer." A search of old records in the library failed to confirm either story.

Buffalo hunts were held here as late as seventy years ago. Two teams would be selected and camp out on the plains. One team would hunt from sunup to sundown the first day, and the other team would hunt the second day. Some of the rules required the animals to be shot with a pistol while the hunter was riding his horse. This required the hunter to out-manuever the buffalo and often to fire at a full gallop. It was excellent training and a real test of horsemanship.

Custer was here at that time. Some Sunday mornings he would smile as he pulled on his boots, let the hounds into the house, crack his whip and cry "Whoop 'em up!" as the barking dogs ran around the room, yelping when they skidded into the furniture. Mrs. Custer's plea for order would bring chuckles from the Colonel as they left for a fox hunt.

Hunting, or riding to the hounds, is a popular sport at Riley today. One morning last fall we heard buglers playing "A-hunting We Will Go" and went to the window to investigate. It was a colorful sight. Hounds were trotting merrily along, followed by uniformed buglers, hunt officials in pink coats and black velvet caps, members of the field in pink coats and high silk hats, ladies in smart riding togs and derby hats, and mounted "servants of the hunt" in green uniforms with brass buttons and gold braid. Even those of us who prefer engines to horses caught enough of the hunt spirit to drive our cars to the crests of nearby hills to watch the progress of the hunt.

Cavalry officers have a reputation for being well dressed. This probably started during frontier days, when regi-

ments were often stationed in isolated places. Their leaders must have understood the psychological effect of good grooming. Just as it has been said of women that "the feeling of being well dressed lends a sense of security that religion fails to bestow," so it could be said of men that their conduct is affected by their attire. Officers in blue uniforms have little urge to stage a wrestling match, nor are those in full dress likely to kick off their shoes at dinner. Neat uniforms with polished brass and shined leather are the custom in the Cavalry.

Regimental spirit and organizational pride are two other Cavalry traditions. Years ago officers who joined a regiment practically grew up in that unit. Instead of frequent transfers of personnel, whole regiments were moved from one place to another, even to foreign service and return. To state that you were a member of a certain regiment implied that you had taken part in some of its many battles and campaigns. It is difficult to match this spirit in time of peace with rapidly changing personnel.

The Cavalry and the Air Corps have much in common. Cavalry is the most mobile ground arm, while the Air Corps is the most mobile of all arms. Both branches have the dual mission of reconnaissance and combat. The new Corps Cavalry regiment corresponds to the Observation units assigned to the corps, and both have reconnaissance as their primary mission. The bulk of the Cavalry is a G.H.Q. weapon which corresponds to our air force. Both of these are under the direct control of G.H.Q. and have the primary mission of fighting.

Allenby's campaign in Egypt showed that air corps and horse cavalry form a deadly combat team. The recent German conquest of Poland shows that air corps and mechanized units are equally effective.

Many people still think of the Cavalry as being composed of mounted troopers armed with sabers, and imagine it will be employed as in "The Charge of the Light Brigade." But today that branch includes not only pistols and automatic rifles instead of sabers, but light and heavy machine guns, mortars, anti-tank guns, scout and armored cars, combat cars (tanks), and artillery.

To the person breezing along from coast to coast on the railroad or highway, the day of the horse is past, and it is if compared with such travel. However, the Cavalry will use railroad and truck transportation for strategical movements and subsequent supply. But neither the railroad nor the highway is wide enough for the deployment of even a small unit. Tactical maneuver on or

near the scene of battle, therefore, calls for cross-country mobility, and this the Cavalry possesses more than any other ground arm. The road traveler has a worm's-eye view which shows the vast paved areas across the country. To the aviator with the bird's-eye view, all these roads appear as threads on the floor, and certainly as no battleground. The farmer who has replaced his team with a tractor which efficiently plows his level fields also thinks the horse model is all but extinct. But again the Pilot, who has probably experienced a sinking feeling in the pit of his stomach because he could not find a landing place, knows that much of this country is neither level nor cultivated. He knows of the desert areas with deep sand, the lonely "Devil's River Country," the gullies of the Black Hills region, and the vast areas densely covered with trees. In such places the mounted trooper has the best mobility, day and night, during good weather and bad. Recently it has been reported that the French are using mounted patrols between the Maginot and Siegfried lines. The first permanent Cavalry regiment in the United States was the "United States Regiment of Dragoons," organized in 1853. The first Cavalry regiment to be stationed at Fort Riley was the 2nd Dragoons, which arrived in 1855. Although the first Cavalry School in the United States was organized in 1861 at Carlisle Barracks, Pa., Fort Riley did not become a school until 1892. It was then known as "The Cavalry and Light Artillery School." In 1904 it became "The Mounted Service School," and in 1919 it acquired its present title, "The Cavalry School." It is on the original site of Camp Center and includes approximately 20,000 acres of rolling terrain. There are about 185 officers, 2,500 enlisted men, and 2,000 horses on the post. The Cavalry School gives instruction to officers of the Regular Army, National Guard and Organized Reserve, and to noncommissioned officers of the Regular Army and National Guard. In addition to the Regular officers in their first year here, there is another group in the advanced or second-year class. Thus each year six classifications of students receive instruction. Material is presented to the students in the form of lectures, conferences, moving pictures, practical exercises, demonstrations, tests, and map problems. Both tactical and technical subjects are included. Instruction is the practical, down-to-earth kind that emphasizes fundamental principles and avoids controversial details. Care is taken to keep the instruction in step with the new technical developments and current military operations.

This progressiveness can be illustrated by the following comparison: In the 1938-39 course, eighteen hours were devoted to Air Corps subjects. In the course now being prepared, 45 hours are allotted to Air Corps subjects, plus considerable time devoted to the discussion of the employment of aviation in combined problems. This is an increase of about 300 percent, and includes instruction in Observation Aviation, aerial photography, anti-aircraft defense, and Air Force. It is a genuine pleasure to discuss military problems with students under the conditions which are insured by the policies of The Cavalry School.

From the days of the knight in armor to the German Blitzkrieg in Poland, Cavalry forces, either horse or mechanized, have played a prominent part in land warfare. Although the Maginot and Siegfried lines of Europe might stabilize warfare to the point of stagnation, this type of combat is not likely to occur in this country. The vast extent of each of our borders prohibits the establishment of an impregnable line of fortifications, or the simultaneous advance of forces stretched along the entire length of even a single border. Invading forces, therefore, will have definite flanks, and a war of maneuver is to be expected. It is under these conditions that the mobility and striking power of the Cavalry show up to the best advantage.

If Coronado could follow the trail of his earlier exploration on the four hundredth anniversary of his first visit to this section, he would see things even more astounding to him than the Seven Cities would have been, and with his interest in things military, it is reasonable to assume that Fort Riley, with its airplanes and modern Cavalry equipment, would amaze him.

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FLYING VISIT FROM PUERTO RICO TO PANAMA

Brig. Gen. Edmund Daley, Commanding General, Puerto Rican Department, departed from Albrook Field in a B-18A for his home station on March 9th, after a week on the Isthmus, where he conferred with Maj. Gen. Daniel Van Voorhis, Commanding General of the Panama Canal Department. The plane was scheduled to make an overnight stop at Maracaibo and proceed to San Juan, Puerto Rico, the following day.

With Gen. Daley on the trip were Lt. Col. Follett Bradley, Air Officer of the Puerto Rican Department; Major Eugene T. Conway, C.A.C., and others. Gen. Daley conferred with Gen. Van Voorhis on defense of the Panama Canal and the Caribbean.

CANAL ZONE AIRMEN FLY TO SOUTH AMERICA

With Major General Daniel Van Voorhis, Commanding General of the Panama Canal Department, as a passenger, twelve B-18's of the 19th Wing left their bases on March 10th for Guayaquil, Ecuador, and Lima, Peru, with the return trip scheduled for March 16th and 17th.

Six of the planes were from Albrook Field, on the Pacific side, and the other six from France Field, the Atlantic Sector post. Accompanying General Van Voorhis were Colonels Jacob L. Devers, Department Chief of Staff; Thurman Hughes, Department Adjutant General, and Major Carl Rohsenberger, aide to General Van Voorhis.

General Van Voorhis rode in the plane piloted by Brigadier General Herbert A. Dargue, who commanded the flight. Other flight staff officers were Lieut. Col. F.M. Brady, Deputy Flight Commander and Intelligence Officer; Major W.S. Gravelly, Operations Officer; 1st Lieuts. W. W. Jones, Engineering and Supply Officer; T.C. Darcy, Communications Officer; M.F. Stalder, Adjutant, and Captain L.E. Griffiths, Flight Surgeon. All of these officers are from Albrook Field.

Word received at Albrook Field on the night of the departure was to the effect that all planes had landed that afternoon at Guayaquil, and would continue the journey to Lima the following day. At least two days were to be spent in Lima, with the return trip slated to last two days. Complete flight personnel follows:

Flight A: First plane—General Dargue, pilot, 2nd Lieut. S. Maddux, co-pilot; second plane, Lieut. Colonel Brady, pilot, 1st Lieut. Jones, co-pilot; third plane, Major Gravelly, pilot, Capt. F.B. Wood, co-pilot.

Flight B: Captain F.J. Allen, pilot, and 1st Lieut. J.W. Twaddell, co-pilot; second plane, Captain R.J. Browne, pilot, and 1st Lieut. T.C. Darcy, co-pilot; third plane, 1st Lieut. R.T. King, pilot, and 1st Lieut. M.F. Stalder, co-pilot.

Flight C: 1st plane, Captain E.T. Rundquist, pilot, and 2nd Lieut. J.H. Carter, co-pilot; second plane, 1st Lt. C.T. Sartain, pilot, and 2nd Lieut. H.D. Wallace, co-pilot; third plane, 2nd Lt. M.H. Shedd, pilot, and 2nd Lieut. C.W. Bogan, co-pilot.

Flight D: 1st plane, Captain G.F. Hix, pilot, and 2nd Lieut. James D. Berry, co-pilot; 2nd plane, 1st Lieut. H.K. Mooney, pilot, and 2nd Lieut. J.D. Mooney, co-pilot; third plane, 1st Lt. D.N. Wackwitz, pilot, and 2nd Lieut. W.A. Boyd, co-pilot.

Flights A and B were from Albrook Field, and Flights C and D were from France Field. Each plane carried a crew of three enlisted men.

FRANCE FIELD UNDER EXPANSION PROGRAM

Writing under date of March 4th, the France Field Correspondent states that the expansion program is progressing nicely at that field, and "while not completely up to our authorized strength, it is judged from the way recruits are arriving on every transport that within the month our quota should be complete.

Group Headquarters moved out of the Air Base Headquarters building down to the old Post Operations building. That gives the 6th Bombardment Group a very nice set-up as their headquarters. Operations, engineering and communications officers are centralized, which certainly expedites all matters.

All of the Group Squadrons, and the 39th Observation Squadron, which was activated February 1, 1940, have moved into the three new temporary barracks across Randolph Road. These new barracks are cool, airy and comfortable in spite of the absence of hot water for toilet purposes.

The new Consolidated Mess and recreation building were to be completed on March 15th. The mess is the new cafeteria style, and it is believed will take care of any number of men that may be assigned here.

The Post Exchange is being completely renovated. The Base Library is being moved out to its new location. The tailor shop is being moved to the chapel, which is also moved with the library to a building being constructed onto the old Constructing Quartermaster office. This new building will serve jointly as a library and chapel. The restaurant section of the Post Exchange is completely rearranged and, if it is found necessary, wings are going to be built onto the Post Exchange to provide for further expansion.

The gymnasium, which was formerly hot, stuffy and with practically no ventilation, has had walls knocked out here and there. With screening installed, it now has the advantage of the cooling breezes from the bay. New stands have been erected to increase the seating capacity in anticipation of the coming basketball season. The floor is being scraped and waxed, and badminton, basketball and volley ball courts painted.

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While the move to McChord Field, Wash., is still two months away, the 17th Bombardment Group, March Field, Calif., is a bee-hive of activity preparing loading lists, etc. Colonel Carlyle H. Wash, in command of the Group for the past 3½ years, relinquished his command to Colonel Wm. H. Crom, and departed for McChord Field on March 15th to supervise its completion.

MAHDOOM: A DISSERTATION ON THE OPERATION OF ONE HYDRAULIC LANDING GEAR

edit note:
Attention: All Flying Cadets on their merry way to Kelly Field!

The following dissertation, submitted by Flying Cadet Harry L. Brown, Section I, The Air Corps Advanced Flying School, Kelly Field, Texas, may possibly save you from a similar embarrassing position - and, indeed, it is embarrassing to pull up your landing gear when the ship is on the ground! It has been done, and will be done again, - so make up your mind that it won't be you!

The operation of the hydraulically-operated retractable landing gear, as found on the well-known BC-1, has been lavishly dealt with in instructive lectures and demonstrations given, for the benefit of training personnel, by the commissioned officers of this Section. As the result of my colorful exhibition relative to the mis-operation of said apparatus at approximately five fifty in the afternoon on the nineteenth of February, the year of our Lord nineteen hundred and forty, I, Flying Cadet Harry L. Brown, Class 40-A, have been honored by this Command by being delegated to explain in writing the landing gear mechanism and its operation.

When we stop to survey this prodigious task, we realize that only a person made famous by the misuse of such an intricate piece of machinery could do the job justice. And who is more qualified to do this job than myself? Naturally, I accepted this great honor. For these and my other heroic actions, I am to receive the coveted Croix-de-guerre, as pronounced in French, but better known in English as Cracks-de-gear.

May I say in passing that only the generous encouragement of my noble classmates will enable me to survive and mount this seemingly unsurmountable obstacle. When a person gains high honor and rises above the common populace, there are always those who, through jealousy, turn against him; however, in my case I am confident that there will be an exception to this general rule. I expect no competition for this honor, but if it comes I will fight it with the least amount of resistance at my command. May a Brown never shirk at his task or muff it!

Now to get on with my thesis. To insure a better understanding of the subject and complete all neural connections that may be a little weak, let us have an explanation of the landing gear as Uncle Sam sees it:

The main landing gear is fully retractable. It is of the cantilever, single leg, half fork type, and is

supported on the front spar of the wing center section. The landing gear is pivoted at the upper portion of the oleo strut and can be retracted inboard into the wing center section structure. This retracting mechanism is actuated by means of an engine-driven hydraulic pump, operated from either front or rear cockpit; or a manually-operated emergency hand pump, operatable from the front cockpit only. Positive mechanical locks for both up and down positions are incorporated in the retracting mechanism. A position indicator is interconnected with the landing gear by means of a cable assembly, and is located at the left side of the front cockpit. When the throttle is closed to a position below approximately one thousand revolutions per minute, and the landing gear is in the up-position or the down-position, lock pins are not in place, an electrically controlled warning device is set into operation. A release switch is located on the pilots switch box for rendering the vibrator inoperative when it is desired to close the throttle with the wheels in the up-position. Opening the throttle to approximately twelve hundred revolutions per minute automatically reinstates the vibrator."

Now what makes this ingenious landing gear function so beautifully? - that is, of course, when it is operated properly! And incidentally, if I may digress momentarily to slip in a personal opinion, I doubt if anyone, no matter how long he is connected with the Air Corps, or any person in a position to observe frequently the raising and lowering of landing gears, could fail to see beauty in their operation. Back to earth again, we find the answer to our question in the Technical Orders on the BC-1:

"A hydraulic system is employed for operation of the landing gear retracting mechanism and wing flaps. An engine-driven hydraulic pump is provided and a fluid reservoir is installed at the left side of the fuselage between the two cockpits. An emergency hydraulic hand pump and a pressure gage are installed on the left side of the front cockpit only. The pressure gage indicates the down pressure for the landing gear only. A power control knob is located at the left side of each cockpit. A separate hydraulic system is provided for operating the brakes."

From my own point of view in the front cockpit of the BC-1, I have examined the system.

ined the landing gear and flap controls and made the following observations:

The landing gear control lever moves through an arc of approximately four inches. The lever itself extends five inches above the guiding plate and the knob found on the business end of this lever tapers from a base five-eighths of an inch in diameter to the top three-quarters of an inch in diameter. The bottom edge is beveled, and the knob as a whole is two inches in height. The words "Land Gear" are in raised letters on the top of this knob. The rear half of this knob is painted green and the forward half is painted red. The lever can be pushed through an additional two-inch arc, when the emergency plate is pulled aside, to insure that the locking pins are in place and the landing gear is in the locked position. On this emergency plate can be found the following inscription: "Emergency." This portion of handle travel pushes latch pins in place."

When the landing gear is down, the visible portion of the two landing-gear position indicator knobs is green in color, but when the gear is up, the visible portion of the indicators is red. This color scheme is used as a warning device in addition to the relative position of the indicators.

The flap handle adjacent to the landing gear lever also moves through a four-inch arc but is distinguished from the latter by being four inches in length, and rectangular in shape, one inch by one-half inch. The cross section of this handle is roughly similar in shape to the cross section of an I beam.

To illustrate the operation of these mechanisms, we will make a practical landing. When preparing to land, the landing gear lever is pushed to the down-position and the power control knob pushed down. The position indicators now move to the down-position with the green portion of the knobs showing. This is check number one that the gear is down. When pressure is indicated on the pressure gage, we have check number two that the gear is down. When the throttle is closed on our approach and the engine R.P.M. drops below one thousand and the electric vibrator fails to operate, we have check number three that it is safe to land. To remove all possible doubt as to whether the gear is down or not, we pull the emergency plate aside and push the landing gear full forward, and if the lever moves

forward easily, we are assured that the latch pins are in place. The next usual procedure is to put down a certain degree of flap, depending on the type of landing desired. Once the ship is on the ground and is moving fairly slowly with everything under control, the pilot pulls the flap handle to the up position and pushes the button to raise the flaps.

Surprised and embarrassed is he who muffs this operation. To forget to raise the flaps is not too great a sin, but to reach for the flap handle and get the landing gear handle, pull it to the up-position and hit the button is criminal. Such an error could result in a multitude of new experiences for the culprit, for example, the job of writing a theme on the operation of the landing gear so grossly injured. At a time like this, Confucius might come up with "He who pulls wrong handle gets big let-down!"

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ARMY GOES COLLEGIATE AT BARKSDALE FIELD

The Army has gone collegiate. At Barksdale Field approximately one hundred enlisted men are attending night classes at Centenary College, Shreveport, La. Arrangements have been made with Centenary College, whereby it is cooperating with Barksdale Field authorities to offer education to enlisted men during off-duty hours at the lowest possible cost. Ambitious youngsters are taking advantage of this opportunity to prepare themselves for future promotion.

This training will enable soldiers to prepare themselves to qualify for: (a) flying cadet training; (b) courses requiring the higher Alpha and mathematic grades at Chanute Field; (c) to better their status in the service. This is the day of specialization, and it is self evident that the trained man has many more advantages and opportunities offered him both in military and civil life.

The following courses are being taken by soldiers attending the night classes: Algebra, Physics, Surveying, Economics, Business Law, History, Chemistry, Mechanical drawing, English, Trigonometry and Geology. New courses began March 18, 1940, with classes being held week days from 7:00 p.m. to 9:30 p.m.

The actual cost per month for each student is approximately \$3.00. Transportation is available with no cost to students. All students are issued school passes upon request. Buses leave the Post Exchange bus stop at 5:40 p.m., and return from Centenary College at 9:35 p.m. each week day, even- ing from Monday to Friday.

edf Jedd ... LINCOLN FLYING SCHOOL STUDENTS FIND IT TOUGH GOING

By Flying Cadet Robert W. Witty

Inclement weather and bad breaks have consistently dogged the trail of Lincoln Flying School's "D" Flight since November 13, when the class was enrolled. Known locally as the "polar patrol," the flight has flown through heavy fogs, been caught in rain and snow storms, and has been confined to narrow runways cleared in the snow since December.

When the time arrived for "D" Flight to migrate to Randolph Field, Texas, (February 15), the class had an average of 36 hours, far short of the 65-hour mark.

"D" Flight was then ceremoniously dubbed "E" Flight and held over for six weeks.

In spite of consistent delays and bad weather (the worst that Lincoln has experienced since 1888), the morale of the cadets and the school personnel has been consistently high. Through the long winter months when flying was held to a minimum, Lincoln afforded sundry social activities, and Captain Roy T. Wright, the Commanding Officer, arranged for periodic workouts at the Y.M.C.

The flight finished up regular ground school, and for the past five weeks has been receiving extra instruction in several different subjects.

Cadets at Lincoln are quartered comfortably in two barracks. One is a former fraternity house, and the other is a private home. Quarters are available for 44 cadets, and the mess is of the best. Union Airport, four miles from the quarters, is the scene of Lincoln flying training. Cadets are transported back and forth in a private bus.

Flying at Lincoln, Nebraska, this winter has been something of an experiment. The Air Corps has been interested in whether or not students could be taught to fly in the prescribed manner under severe conditions. From all indications, except for the six-weeks' delay, the "experiment" has been a success, and "D" Flight is none the worse for wear. Throughout the winter, three different types of cold weather face masks were tried out on the "D" Flight guinea pigs. The first, a wool affair, was found wanting; the second, a flannel covering, was not very popular; and the third, the regulation Army leather mask, seemed to impair a student's visibility too much. The flight finally arrived at the conclusion that the best "mask" was a good old parachute scarf wrapped about the chin, mouth and nose.

Of the 29 men who started with "D" Flight in November, eight left before they had soloed, and two were eliminated early in March, leaving a total of 19, or better than 65%. The old "E"

Flight (now "F" Flight) has retained 17 of its original 21. At this writing, "E" Flight is rounding out 65 hours prior to graduation; and "F" Flight is hard at work on chandelles and lazy eights.

Social life for the Lincoln Cadets has been of the highest order. The Cadets enjoyed an envied reputation at Lincoln, and University of Nebraska sororities have found them much to their liking. Several dances have been conducted by the flying school, and a ball was held at the Lincoln Hotel on New Year's Eve.

While the cadet quarters were being remodeled in preparation for the arrival of the new flight on March 15th, "E" Flight was moved to the swank "Cornhusker" Hotel for a week or two. Living in luxury has somewhat upset the military system, but the officers are not worried, as they know how fast Randolph Field will whip the cadets back into shape.

The Cadets are unanimous in maintaining that, despite the weather and their Army "gripping," their stay at Lincoln has been enjoyable - although they ARE looking forward to seeing the sun again in Texas.

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"ICE" WRITING BY PURSUITERS

"A 33rd Pursuit Squadron pilot had an unusual experience, which since that time has become rather common among our pilots," reports the scribe of this organization, and he then adds the following quotation from 2nd Lieut. P.G. Cochran, Air Corps:

"Jack Frost has become demonstratively air minded. Our wintery artist has added sky writing to his wonderland activities, and if you think he doesn't keep up with the times you're wrong. The other day one of the 33rd pilots at Langley Field noticed unfamiliar streaks of 'white smoke' coming from the other airplanes in his formation. His first apprehensive thoughts of probable trouble weren't logical in that all of the planes he could see were acting in like manner. His deduction was 'condensation of some sort in the extreme cold at this altitude.' They were chasing 'enemy' bombers at 30,000 feet and it was 30 degrees below zero (centigrade).

"He was right. The moisture in the exhaust of the powerful, high speed engines was turning to tiny ice crystals.

(Continued on Page 8)

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NINE PLANE INSTRUMENT (HOODED) FLIGHT

Captain Nathan B. Forrest, Air Corps, and 2nd Lieut. Irvine A. Rendle, Air Corps, of the 17th Bombardment Group (Medium), GHQ Air Force, March Field, Riverside, Calif., recently drew plans, both descriptive and diagrammatic, for a procedure to be followed in Instrument Formation Flying. The procedure is divided into two parts, i.e., Route Instrument Formation and Airways Instrument Formation. The first plan is designed to keep all airplanes in the close proximity of each other under the control of the leader and the second permits each airplane pilot to be able to take full advantage of radio facilities without danger of colliding with another airplane of the group or without violating any Airway Regulation.

"The outlined plan is mathematically correct," says the March Field Correspondent, "and its successful application depends primarily upon indoctrination, mutual confidence between all members of the flight, and individual pilot proficiency.

"Fantastic as it may seem, the 17th Group dispatched nine B-18A's on an Instrument Formation Flight (Principal Pilot only under the hood) from March Field to within ten miles of the Mexican Border and return. On the return flight, all airplanes assumed the Airways Instrument Formation briefly described above, and homed on the Riverside Radio Range. Ground observers clocked each airplane as it passed over March Field and found that all airplanes were in the planned position after having flown 200 miles of instrument flying.

"It is believed that a plan which can be readily and safely executed in case of an emergency is an added safety factor to Army Aviation, and that premeditated instrument flights by units as means of reaching an objective will be much less hazardous and much less exacting upon the demands of combat personnel than contact flights where weather conditions are such as to make each mile an additional problem."

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CLASS 40-C COMPLETES BASIC TRAINING

Writing under date of March 22nd, the Randolph Field Correspondent states that this week marks the end of the present class (40-C) undergoing training on "B" Stage. In spite of having lost a number of flying days, due to bad weather, the work is being completed a week ahead of the called for schedule. The students will probably be transferred to the Advanced Flying

School for further training next week. Many of the instructors are planning to take extended cross-country flights and short periods of leave of absence, during the time before the next class is scheduled to begin. All of the personnel will enjoy the short period of relief from regular routine duty and should be ready to begin work on the new class with renewed vigor.

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"Ice" Writing by Pursuiters

(Continued from Page 7)

or frost forming in the clear cold atmosphere as a sort of white smoke.

"But the business of Pursuit formation flying leaves no time for conjecture and detailed observation, so the phenomena was taken as 'another one of those things' at the time.

"A few days later the same pilot, on a routine altitude test mission, found old Jack Frost a 'stowaway' in his single seater P-36. There was the streamer of white trailing him and remained intact in a perfect line.

"Skywriting, sure. And what did he write? His name.

"'Old Jack' did the writing, but the pilot guided his hand, and this pilot's writing is notoriously horrid, so the personal publicity fell flat through illegibility. However, even the doubtful 'crankers' at Langley were convinced. They knew he had written something, and he'd written it in ice."

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NEW ADJUTANT FOR KELLY FIELD

First Lieut. C.A. Clark, Jr., Air Corps, has been named Adjutant at Kelly Field, succeeding Captain A.W. Kissner, who was recently ordered to Washington for duty in the Office Chief of the Air Corps. Lieut. Clark is the son of Colonel C.A. Clark, Quartermaster for the 5th Corps Area, Columbus, Ohio, and graduated from West Point in 1932. After serving one year with the Field Artillery at Fort Bragg, N.C., Lieut. Clark entered the Air Corps Training Center, Randolph Field, Texas, for flying training, and graduated from the Air Corps Advanced Flying School, Kelly Field, in February, 1935, when he was transferred to the Air Corps. After a tour of duty in the Philippines, Lieut. Clark returned to Kelly Field in October, 1937, since which time he has been serving as Assistant Adjutant.

First Lieut. N.T. Perkins, Air Corps, formerly Assistant Technical Inspector at Kelly Field, has been appointed Acting Assistant Adjutant.

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PROMOTION OF AIR CORPS OFFICERS

The following named Air Corps officers received temporary appointments to the grades indicated, with rank from March 1, 1940, under the provisions of the Act of Congress, approved June 16, 1936, viz:

Lieutenant Colonel to Colonel

Ralph Royce	Robert LeG. Walsh
William O. Ryan	Junius H. Houghton
Clinton W. Howard	Howard J. Houghland
Joseph T. McNarney (GSC)	Charles B. Oldfield
Edwin B. Lyon	William H. Crom
Hume Peabody (GSC)	Gerald E. Brower
Earl L. Naiden (GSC)	Robert C. Candee
Michael F. Davis	Oliver P. Echols
Hubert R. Harmon (GSC)	Vincent B. Dixon
Henry J. F. Miller	Laurence F. Stone
Thos. J. Hanley, Jr. (GSC)	Willis H. Hale (IGD)
Leo A. Walton	William C. Ocker
Ralph P. Cousins (GSC)	William F. Volandt
Adlai H. Gilkeson	William E. Kepner
George E. Stratemeyer	Chas. T. Phillips (GSC)

Major to Lieutenant Colonel

Lowell H. Smith	Charles M. Savage
Edwin J. House	George C. Kenney
Ray A. Dunn	George M. Palmer
Frederick F. Christine	John P. Temple
Earl S. Schofield	Byron T. Burt, Jr.
Arthur E. Simonin	Earle G. Harper
Frank O'D. Hunter	Lotha A. Smith
David S. Seaton	William V. Andrews
Harold E. George	Arthur W. Brock, Jr.
Walter J. Reed	M.G. Estabrook, Jr.
St. Clair Streett	Carl F. Greene
John I. Moore	Perry Wainer
Oliver S. Person	William S. Gravely
Robert G. Breene	Harlan W. Holden
James F. Powell	Joseph L. Stromme
Neal Creighton	Rudolph W. Propst
Alonzo M. Drake	Frank D. Hackett
Victor H. Strahm	Aaron E. Jones
Ira R. Koenig	Robin A. Day
Philip Schneeberger	John Y. York, Jr.
Karl S. Axtater	Walter H. Reid
William J. Flood	

Captain to Major

Ray H. Clark	Benjamin W. Chidlaw
Homer W. Ferguson	Orval R. Cook
Robert W.C. Wimsatt	James W. Spry
Donald E. Fritch	Robert W. Douglass, Jr.
John S. Griffith	Oscar L. Beal
Edmund C. Lynch	Hilbert W. Wittkop
Alfred A. Kessler, Jr.	Townsend Griffiss
Mervin E. Gross	Leo H. Dawson

With Rank from March 11, 1940

Major to Lieutenant Colonel

John B. Patrick	Arthur Thomas
Earl H. DeFord	Ulysses G. Jones
Ralph B. Walker	John P. Richter
Clarence B. Lober	Michael E. McHugo
John K. Cannon	James L. Grisham
Arthur J. Melanson	Earl S. Hoag
Theodore J. Koenig	Vincent J. Meloy
Grandison Gardner	Chas. E. Branshaw
Alvan C. Kincaid	Edward W. Raley
Omer O. Niergarth	James T. Hutchison
Aubrey Hornsby	Edwin R. Page

Charles P. Prime	Harvey H. Holland
Auby C. Strickland	Russell L. Maughan
John M. Clark	Oliver P. Gonthlin, Jr.
Roland C.W. Blessley	Eugene B. Bayley

Captain to Major

Milton J. Smith	John G. Salsman
James F. Phillips	James M. Fitzmaurice
Raymond E. Culbertson	Hoyt S. Vandenberg
Ralph A. Snaveley	Stewart W. Towle, Jr.
Robert B. Williams	Walter C. White
John W. Warren	Glen C. Jamison
Patrick W. Timberlake	Carl B. McDaniel
Clyde K. Rich	Herbert K. Baisley
Laurence C. Craigie	John K. Nissley
Charles W. Lawrence	Archibald Y. Smith
Wallace E. Whitson	Charles G. Pearcy
Russel J. Minty	Earle E. Partridge
James F.J. Early	David J. Ellinger
Alden R. Crawford	Cecil E. Henry
Thomas M. Lowe	Uzal G. Ent
David M. Schlatter	Joe L. Loutzenheiser
Charles T. Myers	Richard E. Nugent
Leslie P. Holcomb	John P. Kirkendall
Wilfrid H. Hardy	Robert R. Selway, Jr.
Joseph Smith	John G. Moore
Joseph H. Hicks	Luther Stevens Smith
Robert C. Oliver	Robert W. Harper
John M. Weikert	Howard M. Turner
Leonard H. Rodieck	Demas T. Craw
George H. Steel	Cornelius W. Cousland
Edward H. White	Carl J. Crane
William O. Eareckson	Howard E. Engler
Richard W. Gibson	William D. Old
John R. Hawkins	Elmer T. Rundquist
Ralph E. Fisher	Harold G. Peterson
James S. Stowell	George F. Schulgen
Arthur L. Bump	

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TRANSFER OF OFFICERS TO THE AIR CORPS.

Eight officers of the Regular Army, who graduated from the Advanced Flying School, Kelly Field, Texas, on March 23, 1940, were on that date transferred to the Air Corps.

Four of these officers are assigned to temporary duty in connection with the Third Army Maneuvers and then to Air Corps stations, as follows:

1st Lieut. Peter McGoldrick, Infantry, and 2nd Lieut. John C. Pitchford, Field Artillery, to Langley Field, Va.;

1st Lieut. Edward W. Moore, Coast Artillery, to Moffett Field, Calif., for duty with the 82nd Observation Squadron;

2nd Lieut. John H. Griffith, Infantry, to Lawson Field, Fort Benning, Ga., for duty with Flight C, 16th Observation Squadron.

The four remaining officers are assigned to Kelly Field, Texas, for duty, viz: 1st Lieuts. Richard H. Smith, Infantry; Howell M. Estes, Jr., Jergen B. Olson and Jack W. Turner, Cavalry.

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Master Sergeant Ralph W. Bottriell, 12th Air Base Squadron, Kelly Field, Texas, and First Sergeant Frank B. Gibbs, 91st Observation Squadron, Fort Lewis, Wash., were placed on the retired list March 31, 1940.

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LIST OF GRADUATES OF CLASS 40-C FROM ADVANCED FLYING SCHOOL

Officers of the Regular Army

1st Lieut. Howell Marion Estes, Jr., Cav.
 1st Lieut. Peter McGoldrick, Inf.
 1st Lieut. Edward Walter Moore, C.A.C.
 1st Lieut. Jergen Bernhardt Olson, Cav.
 1st Lieut. Richard Henry Smith, Inf.
 1st Lieut. Jack Wellington Turner, Cav.
 2nd Lieut. John Harris Griffith, Inf.
 2nd Lieut. John Cozart Pitchford, F.A.

Flying Cadets

Adams, Jack Nolen Alexander City, Ala.
 King, George Leslie Alexander City, Ala.
 Hamrick, Wm. Lester Bessemer, Ala.
 McGehee, Thomas Kendrick Greenville, Ala.
 Sheppard, William A. Tuscaloosa, Ala.
 Larothe, Charles Joseph Tucson, Ariz.
 Mills, Charles Wilson, Jr. Tucson, Ariz.
 Swanson, Clyde William Yuma, Ariz.
 Robbins, Jack Stuart Helena, Ark.
 Ross, Charlie Merrell Magnolia, Ark.
 Royall, Royster R., Jr. Avenal, Calif.
 Berkenkamp, Eugene Henry Berkeley, Calif.
 Joham, James Edward Long Beach, Calif.
 Allen, Franklin S., Jr. Los Angeles, Calif.
 Burleigh, Alex Earl Los Angeles, Calif.
 Robinson, Raymond E. Los Angeles, Calif.
 Sullivan, Robert Bernard Los Angeles, Calif.
 Seaman, Owen McNeill Oakland, Calif.
 Hanson, Robert Taylor Oakland, Calif.
 LeBailly, Eugene Bernard Oakland, Calif.
 Gwyn, Howard R. Pasadena, Calif.
 Thornquest, Frank Purvis Redlands, Calif.
 Zins, William Elmer San Diego, Calif.
 Smith, Hall Frank San Francisco, Calif.
 Stoffel, Fred C., Jr., San Juan Capistrano, Calif.
 Hummel, Ernest Benjamin Selby, Calif.
 Mahony, Grant Vallejo, Calif.
 Barlow, James Dudley Walnut Creek, Calif.
 Calhoun, Robert T. Fort Davis, C.Z.
 Mayne, Reuben Weed Loma, Colo.
 Greco, Joseph Alfred L. Hartford, Conn.
 Knox, Jonathan Horace Hartford, Conn.
 Berg, Raynold A. New Haven, Conn.
 Calderbank, John J.B. Old Greenwich, Conn.
 Carter, William Harding Washington, D.C.
 Hubbell, Robert B. Washington, D.C.
 Baldwin, Ernest Frederick Gainesville, Fla.
 Gould, Elmer M. Atlanta, Ga.
 Soper, Ray Ed Fort Logan, Colo.
 Kramer, Glen Howard Montrose, Colo.
 Moye, Albert James Ashton, Ill.
 Keenan, Gerald Martin Chicago, Ill.
 Thompson, James Herman Chicago, Ill.
 Johnson, William Stephen Elburn, Ill.
 Prange, Robert M. New Douglas, Ill.
 Coulter, Robert Edward La Grange, Ill.
 Cutting, Duane Miles Rockford, Ill.
 Meadows, Edward Oscar Toluca, Ill.
 Latham, James Colson Moultrie, Ga.
 Willis, Elmer H. Coal City, Ill.
 Michaelis, Ralph Leslie Kimberly, Idaho
 Herrman, George Ross Ft. Benj. Harrison, Ind.
 Springer, Robert Wayne Indianapolis, Ind.
 Coen, Robert B. South Bend, Ind.
 Strauss, Allison Wayne Wadesville, Ind.
 Crocker, John Powers Ames, Iowa
 Eyres, William Gordon Ames, Iowa
 Seymour, Thomas M. Dubuque, Iowa

Smith, Stephen M.

Hall, James H.
 Martz, Kenneth Elliot
 Wuertele, Carl Eugene
 Jenkins, Charles Frank, Jr.
 House, Anderson Garth
 Deaton, George C.
 Stracener, Ivan Ray
 Pace, David Earl
 Dow, James Frederick
 Tower, John Russell
 Fandel, William Herbert
 Millen, John Joseph
 Stoddard, Edwin F.
 Billings, Robinson
 Damon, Harry F., Jr.
 Tower, Harry N.
 Lambert, Paul M.
 Johnson, Leland Warren
 Ljunggren, Ernest Nils
 Keyes, Ralph Eugene
 Anutta, Frederick T.
 Thomas, Henry C.
 Cethell, Russell W.
 Amen, Henry John
 Caldwell, Harry E., Jr.
 Carlson, Francis T.J.
 Carlisle, Richard T.
 Bonner, Thomas Woodrow
 Brown, Grover Cleveland
 Goff, Lyman H., Jr.
 Scott, Edward Walcott, Jr.
 Collins, James F., Jr.
 McKee, James T.
 Bowling, Robert H.
 Lucas, Walter Yeates
 Jacob, Norman Maurice
 Wilhite, Kenneth Taylor
 Elase, George Earman
 Carey, Edwin F., Jr.
 Coxwell, Jonathan Eugene
 Thyng, Harrison R.
 Normand, Charles G. Yves
 Church, Russel Morse, Jr.
 Colpitts, Walter Wm. II
 Walter, Carl Paul
 Gibbons, Robert Joseph
 Springfield, Berkeley I.
 Lippincott, Robert Stapler
 Perry, Arthur Clarke
 Compton, Wm. Robert
 Brandon, Donald K.
 Bafford, Thomas W.
 Johnstone, Charles William
 McLeod, Robert M.
 Gehrig, Raymond Miller
 Bedient, Hugh P.
 Colpitts, Walter W. II
 Dimond, Horace E.
 MacInnis, Raymond Lawrence
 Stepp, Richard D.
 Dekin, Donald George
 Osborne, Thomas F.
 Bumgarner, Willis C.
 Wilkinson, Warren S.
 Satterwhite, Robt. B.
 Zipler, Frank C.
 Kittel, Louis Richard
 Crossen, Charles Morris

Girard, Kans.
 Lawrence, Kans.
 Wichita, Kans.
 Wichita, Kans.
 Bowling Green, Ky.
 Louisville, Ky.
 Kinder, La.
 University, La.
 West Monroe, La.
 Houlton, Me.
 Easton, Md.
 Dedham, Mass.
 Framingham, Mass.
 Framingham, Mass.
 Hokesdale, Mass.
 Malden, Mass.
 Medway, Mass.
 Newton Highlands, Mass.
 Wellesley Farms, Mass.
 Worcester, Mass.
 Cassopolis, Mich.
 Escanaba, Mich.
 Muskegon Heights, Mich.
 Roseville, Mich.
 Lanesboro, Minn.
 Minneapolis, Minn.
 Minneapolis, Minn.
 Hattiesburg, Miss.
 Jackson, Miss.
 Jackson, Miss.
 Jackson, Miss.
 Hollandale, Miss.
 Meridian, Miss.
 Picayune, Miss.
 Newton, Miss.
 Starkville, Miss.
 Vicksburg, Miss.
 Clayton, Mo.
 St. Louis, Mo.
 St. Louis, Mo.
 Billings, Mont.
 Barnstead, N.H.
 Manchester, N.H.
 Dumont, N.J.
 Englewood, N.J.
 Fanwood, N.J.
 Jersey City, N.J.
 Jersey City, N.J.
 Medford, N.J.
 Rahway, N.J.
 Las Vegas, N.M.
 Lovelock, Nevada
 Reno, Nevada
 Reno, Nevada
 Reno, Nevada
 Cohocton, N.Y.
 Falconer, N.Y.
 Niagara Falls, N.Y.
 South Ozone Park, N.Y.
 Williamsville, N.Y.
 Woodside, L.I., N.Y.
 Iliion, N.Y.
 Arden, N.C.
 Grossnore, N.C.
 Lincolnton, N.C.
 Roanoke Rapids, N.C.
 West Charlotte, N.C.
 Fargo, N.D.
 Canton, Ohio

Prentice, Geo. W.	Cleveland Heights, Ohio	Campbell, Roland Arthur	Greenacres, Wash.
Mizicko, John Paul	Brookfield, Ohio	Nims, Frank Leslie	Bellingham, Wash.
Stephenson, Mac B.	Lancaster, Ohio	Lamson, Robert Tashian	Seattle, Wash.
Trees, Earl	Linworth, Ohio	Dow, Leonard Ferrell	Wenatchee, Wash.
Sands, Harry James, Jr.	Pataskala, Ohio	Reay, David N.	Morgantown, W. Va.
Schirmer, Robert F.	Springfield, Ohio	Moore, Howard O., Jr.	Madison, Wis.
Callahan, Walter Lloyd	Broken Bow, Okla.	Waddleton, Thomas Renan	Laramie, Wyo.
Himes, Charles Woodrow	Lawton, Okla.	Cole, James Lawrence	Wheatland, Wyo.
Selman, James Clarke	Oklahoma City, Okla.	Bechtel, Paul S.	Encampment, Wyo.
Sims, Mitchel Escoc	Norman, Okla.	Thompson, John A.	Tacoma, Wash.
Young, Ernest Claypool	Tulsa, Okla.	Cantello, George	Milwaukee, Wis.
Hogg, James Arthur	Astoria, Ore.		
Casey, Leroy Virgil	Salem, Ore.		
Slough, Andrew E.	Medford, Ore.		
Keck, Robert Byron	Allentown, Pa.		
Beck, Richard Hancock	Bala-Cynwyd, Pa.		
Wojcik, Henry L.	East McKeesport, Pa.		
Coss, Walter Leroy	New Brighton, Pa.		
Tower, John Russell	Oil City, Pa.		
Burhanna, Howard, Jr.	Philadelphia, Pa.		
Burchinal, David Arthur	Washington, Pa.		
Seeley, John M.	Pottstown, Pa.		
Johns, Robert Gordon	Mansfield, Pa.		
Skaliy, Peter	Pawtucket, R.I.		
Hornier, Lawson C., Jr.	Chester, S.C.		
Wallace, John Braxton	Columbia, S.C.		
Allen, Sobey F.	Fort Moultrie, S.C.		
Sloan, Raymond A.	Marion, S.C.		
Johnson, William E., Jr.	Spartanburg, S.C.		
Kirtley, Robert Eberle	Spartanburg, S.C.		
Eddy, Lyman Harvey	Travelers Rest, S.C.		
Brown, Harry LeRoy, Jr.	Aberdeen, S.D.		
Lane, Cameron Wilbur	Brookings, S.D.		
Hedman, Robert P.	Webster, S.D.		
Leverette, William L.	Kingsport, Tenn.		
Bushnell, Kenneth	Beaumont, Texas		
McCallum, Gerald	Belleville, Texas		
Humphrey, Richard B.	Dallas, Texas		
Liles, Carl Lloyd	Denison, Texas		
Badgett, James G.	Floydada, Texas		
Fassemer, David W.	Fort Crockett, Texas		
Hummel, Ernest Benjamin	Houston, Texas		
Jacobs, Louis Kleinsmith	Houston, Texas		
Smith, Robert Edward	Kingsville, Texas		
Johnston, Harry Wilton, Jr.	Laredo, Texas		
Adams, Alan F.	Marfa, Texas		
Nendell, Jack Arista	Randolph Field, Texas		
Browne, Hal, Jr.	San Antonio, Texas		
Smith, Wm. Hightower	San Antonio, Texas		
Traylor, John Hamlin	San Antonio, Texas		
Thornhill, John James	San Antonio, Texas		
Allen, Augustus J.	Wills Point, Texas		
Colley, Floyd Durant	Waco, Texas		
Potts, Francis Morgan	Waco, Texas		
Briggs, Loran D.	Bountiful, Utah		
Davis, Raymond Ernest	Bountiful, Utah		
Birleffi, Arthur L.	Fort Douglas, Utah		
Lazenby, James E.	Ogdon, Utah		
Avery, Delwin B.	Salt Lake City, Utah		
Brown, George Evans	Salt Lake City, Utah		
Heath, Joseph H.	Salt Lake City, Utah		
Jones, Wilson Tolman	Salt Lake City, Utah		
Quinn, Elwyn F.	Salt Lake City, Utah		
Sharp, John Ferrin	Salt Lake City, Utah		
Thomas, Jay Paul	Salt Lake City, Utah		
Mace, Wallace Packard	Salt Lake City, Utah		
Adkins, George M.	Cape Charles, Va.		
McCutcheon, Robert H.	Bishop, Va.		
Rux, Vernon Andrew	Crewe, Va.		
Sykes, Philip Avery	Danville, Va.		

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EXTENSION OF ACTIVE DUTY TOURS OF RESERVES

The following named Air Corps Reserve officers, whose tours of active duty at the Air Corps stations indicated terminated on April 2, 1940, were continued on active duty until April 2, 1941, viz:

Barksdale Field, La.

2nd Lieuts. Yancey Smith Tarrant, Brownwood, Texas; Stanley Richard Vosper, Akron, Ohio (May 25, 1941); Wilson Gillis, Los Angeles, Calif.; Eckford Hodgson, Gallipolis, Ohio; Kermit Douglas Stevens, Eugene, Ore. (March 1, 1941);

Bolling Field, D.C.

1st Lieut. Harvey Wade Regan, Greensboro, N.C.; 2nd Lieut. Roland Lee Sansbury, Upper Marlboro, Md.

Chanute Field, Ill.

2nd Lieut. Charles Alexander Watt, Detroit, Mich.

Duncan Field, Texas.

1st Lieut. Pete Brewster, Birmingham, Ala.; 2d Lts. P.S. Blair, Sparta, Ill.; Robert Lewis Olinger, Angola, Ind. (March 1, 1941); Julian Miles Joplin, Dallas, Texas

Chicago Municipal Airport, Chicago, Ill.

1st Lt. Herbert Pierce Horton, Fitchburg, Mass.

Fort Knox, Ky.

2nd Lieut. Adolf Milton Wright, Louisville, Ky.

Hamilton Field, Calif.

1st Lieut. Charles Frederick Scott, Iola, Kans.; 2nd Lieuts. Jesse Prichard, Inverness, Miss.; Elmer Leroy Parsel, Plymouth, Ohio.

Hawaiian Department

2nd Lieuts. Perry Sherman Cole, Washington, Ind.; Cecil Lee Faulkner, Bellevue, Texas; Curtis Edward Wood, Huntington, W. Va.; Earl Wilson Worley, Littletown, Pa.; Rudolph Emil Flack, Brentwood Heights, Calif.; Ronald Dean Hubbard, Warren, Ohio; William Edward Hubbard, II, Sweetwater, Texas; Raymond Robert Spurgeon, Cincinnati, O.; Robert Hartwell Stuart, San Jose, Calif.; Edward Charles Teats, Pittsburgh, Pa.; Joseph Charles Tuell, Bisbee, Ariz.; Ira Francis Wintermute, Selem, Oregon; Gerald Graham Robinson, Los Angeles, Calif.

Kelly Field, Texas

1st Lieuts. Wm. Irvin Fernald, Tarpon Springs, Fla.; Norman Louis Callish, Los Angeles, Calif.; J. Will Campbell, Dalhart, Texas; George Francis Keene, Jr., San Antonio, Texas; Frank Phipps Smith, Clarksdale, Miss.; 2nd Lieuts. William Hoag Turner, Portland, Ore.; Russell LeRoy Flolo, Aberdeen, S.D.; Herbert

Donald Schultz, Jr., Alameda, Calif.; Alban Boardman Ogden, Jr., Des Moines, Iowa; John Baumler, Trenton, N.J.

Langley Field, Virginia

1st Lieuts. Thomas Nixon Charles, Memphis, Tenn.; Herbert Arthur Orr, North Adams, Mass.; Laurel Jesse Gephart, Morrill, Kans.; James Harvey Rothrock, Washington, D.C.; 2nd Lieuts. Harold Thaddeus Babb, Dalton, Ga.; Charles Joseph Howe, Clairton, Pa.; Paul Schwartz, Tampa, Fla.; William Ireland, Cincinnati, O.; Lowery Lawson Brabham, Montgomery, Ala.; Virgin Monroe Cillum, Shinnston, W. Va.; Gilbert Louis Meyers, Grand Forks, N.D.; Paul Hinds, Fraser, Mich.; Frederick Hayes Postal, Chicago, Ill.; Sullins Preston Turner, Atlanta, Ga.; Charlie Rankin Bond, Jr., Dallas, Texas; William Wallace Momyer, Seattle, Wash.; Joe Kenneth McNay, Louisville, Kans.; Wilbur B. Sprague, Jr., Hartsdale, N.Y.; Ozburn Early Taylor, Nashville, Tenn.; Raymond Fred Bloesies, Omaha, Neb.; John Harold Hayden, New Rochelle, N.Y.; Wm. Elza McEntire, Fort Worth, Texas; Joseph Richard Ambrose, Danville, Va.; Raymond Joseph Busse, Glenburn, N.D.

March Field, Calif.

1st Lieuts. James Clifford Jensen, Fresno, Calif.; Clarence William Gilkes, Park Ridge, Ill.; Philo O. Rasmussen, Sacramento, Calif.; Joseph Adolph Brier, Riverside, Calif.; 2nd Lieuts. William Archibald Lanford, Riverside, Calif.; Frank Norwood, Santa Monica, Calif.; William Nixon Vickers, Jr., San Antonio, Tex.; Harold Marklin Herman, Grants, N.M.; Walter Reid Ford, Oakland, Calif.; Henry Preston King, San Marcos, Texas; Raymond Theodore Swenson, Chicago City, Minn.; 1st Lieut. John Cushman Doherty, Los Angeles, Calif.; 2nd Lts. Lawrence William Coyle, Coffeyville, Kansas; Maurice Allen Morgan, Austin, Texas; Ray David Taylor, Brownwood, Texas; Sig Rodgers Young, Tucson, Arizona; Max Richard Fennell, Spokane, Wash.; Alvin Edward Hebert, Los Angeles, Calif.; Robert Wilbur Henderson, Glendale, Calif.; Ralph Lorimer Oliver, Palo Alto, Calif.; Harold Willsie, Asher, Okla.; Richard Francis Rush, Tucson, Ariz.; Joseph Sefton Wakefield, San Diego, Calif.; Theodore Arnold Suiter, Spearfish, S.D.; Frederick James Knorre, Jr., San Francisco, Calif.; Charles James Langmack, Albany, Ore.; Walter E. Arnold, El Paso, Texas.

Marshall Field, Fort Riley, Kans.

2nd Lieuts. Wayne Kimball Richardson, Milwaukee, Wis.; Harold Emmett Humfeld, Anthony, Kans.

Maxwell Field, Ala.

2nd Lieuts. Joseph Roy Delaune, Jr., Port Arthur, Texas; Seth Jefferson McKee, Illmo, Mo.; Eriksen Emerson Shilling, Washington, D.C.; Delmer Norris Skow, Devils Lake, N.D.; Thomas William Hornsby, Columbia, S.C.; George Bray McMillan, Winter Garden, Fla.; Rudolph King Ort, Wichita Falls, Texas.

Lawson Field, Fort Benning, Ga.

2nd Lieut. Paul Warfield Tibbets, Jr., Miami, Fla.

Mitchel Field, N.Y.

2nd Lieuts. Thomas Philip Bacon, Bessemer, Ala.; Charles Kofod Nelson, Jr., Philadelphia, Pa.; LeRoy Len Stefanowicz, Wildrose, N.D.

Moffett Field, Calif.

1st Lieuts. Wilfred Rotherham, Fresno, Calif.; Silas Milbern Miller, McPherson, Kans.; 2nd Lts. Charles Afton Gayle, Bellaire, Texas; Lawrence Rea Gibboney, Cincinnati, Ohio; Cecil James Locke, Jr., Austin, Texas; John Belmond Lovelless, Washington, D.C.; John Wesley Strickland, Texarkana, Texas; Herman Billings, Portland, Me.; Ronald Frederic Fallows, Mason City, Iowa; Robert Bradford Richard, Visalia, Calif.; Wm. James Cummings, Jr., Lawrence, Kans.; Frank Lowry Dunn, San Antonio, Texas; Walter Arval Hazlewood, Salem, Ore.; Oswald Weeks Lunde, Kewaunee, Wisc.; Samuel Hains Maret, Little Rock, Ark.; Barton Morrow Russell, Billings, Mont.; Charles Roy Sneed, Evans, Texas; Willard Filmore Tindall, Excelsior Springs, Mo.; Wm. Allen Bowie, Baton Rouge, La.; Walter Leigh Hawkins, Oklahoma City, Okla.; John Peyton Randolph, Schertz, Texas; Charles Erskine Coverley, Palo Alto, Calif.; (Anthony Vincent Grossetta, Tucson, Ariz.; Thomas Harvey Hubbard Fort Worth, Texas; Thomas Walter Jackson, Ames, Iowa; James Wester Luker, Porterville, Calif.; Everett Wilson Stewart, Talmage, Kans.; May 25, 1941).

Panama Canal Department

2nd Lieuts. James Alex Barnett, Detroit, Mich.; John Preston Breckenridge, Paragould, Ark.; Marshall Pyron Camp, Arlington, Texas; Eugene Louis Clark, Clairton, Pa.; James Daniel Mayden, Junction City, Kans.; John Adolph Herman Miller, Coffeyville, Kans.; Archibald Woodrum Moore, Huntington, W. Va.; Kyle Loyd Riddle, Decatur, Texas; Joseph C. Smith, Brownsville, Texas; J. Garrett Jackson, Altus, Okla.; Herbert Adolph Von Tungeln, Oklahoma City, Okla.; John Bailey Henry, Jr., Charlotte, Texas.

Oakland, Calif.

1st Lieut. John Thomas Cox, Dallas, Texas.

Olmsted Field, Middletown, Pa.

1st Lieut. Arthur Lawrence Logan, Floral Park, L.I., New York.

Patterson Field, Fairfield, Ohio

1st Lieuts. Maurice Milton Beach, Detroit, Mich.; Theodore Quentin Graff, Ada, Ohio; Richard Boynton Stophlet, Toledo, Ohio; 2nd Lieuts. Edward Preston Dimmick, San Antonio, Texas; Wm. Iverson Marsalis, Findlay, Ohio; Charles Sylvester Marshall, Grafton, W. Va.; Robert Harry Quigley, Whiting, Ind.; Roy Ossin Balston, Dallas, Texas.

Puerto Rican Department

1st Lieut. Charles Wright Alverson, Cleveland, Ohio; 2nd Lieuts. Charles Marion Eisenhart, Culbertson, Nebr.; Parker Fall Schofield, Malden, Mass.

Randolph Field, Texas

1st Lieut. Wm. Preston Nuckols, Jackson Heights, L.I., N.Y.; Donald Earl Meade, Hays, Kansas; D. Ross Ellis, Stillwater, Okla.; James Marshall Treweek, Lead, S.D.; 2nd Lieut. John Norton Reynolds, Jr., Philadelphia, Pa.

Sacramento Air Depot, Calif.

1st Lieut. Lloyd Louis Sailor, Normal, Ill.; 2nd Lieuts. Joseph Herbert Paul, Marriottsville, Mi.; Harold Yorke Sewart, Wichita, Kans.; Martin Eugene Wanamaker, Barnes, Kans.; Arthur Hanson, Estherville, Iowa; Henry Martin Celik, V-8414, A.C.

1160 Oakland, Calif.; Aaron Holke Hoffeditz, Green-
land, Pa.

Selfridge Field, Mich.
2d Lieut. John Landrum Brownell, Bexley,
Ohio; Magnus Buddy Marks, Spokane, Wash.; 1st
Lieut. Arthur Raymond Kingham, Oklahoma City,
Okla.; 2d Lieut. William John Peallock, II,
Michigan City, Ind.; George Herbert Armstrong,
Billings, Mont.; John Scrimgeour Evans, St.
Paul, Minn.; Harold Eugene Kofahl, Fellows,
Calif.; Charles Ernst Trostel, Cincinnati, O.;
James Robert Bruce, Jr., Saginaw, Mich.; Paul
John Glenn Moore, Wichita, Kans.; Edgar
Allen Romberg, Lincoln, Neb.; Lewis Morgan
Sanders, Ft. Wayne, Ind.

Scott Field, Ill.
2d Lieut. Maurice Joseph Fitzgerald, Fort
Smith, Ark.

WAR DEPARTMENT SPECIAL ORDERS

Changes of Station

To Bolling Field, D.C.: Major Edward E.
Hildroth, from Office Chief of the Air Corps,
Washington, D.C.; Captain Ezekiel W. Napier,
from Randolph Field, Texas; Capt. Robert H.
Kelly, from Hawaiian Department.

To Aberdeen Proving Ground, Md.: 1st Lieut.
Hamilton F. Summerfelt, from Mitchel Field, for
duty with Air Corps Detachment.

To Boston, Mass.: Lieut. Colonel Vernon L.
Burge, from Selfridge Field, for duty at Hqrs.
1st Corps Area.

To Barksdale Field, La.: Major Guy L.
McNeil, from Philippine Department.

To Fort Belvoir, Va.: Major Charles Y.
Banfill, upon completion of course of instruc-
tion at Army War College.

To Hamilton Field, Calif.: Major Lionel H.
Dunlap, from Sacramento Air Depot, Calif.

To Hawaiian Department: Colonel William O.
Dyan, from duty as instructor, Army War
College; Captain Arthur W. Meehan, from
Mitchel Field; Colonel Howard C. Davidson, from
duty as student at Army War College.

To Kelly Field, Texas: Major Paul C. Wilkin-
son, from Middletown Air Depot, Pa.; Majors
Louis C. Mallory, from March Field, Calif.;

Lloyd G. Blackburn, from Philippines; Clarence
E. Horton, from San Antonio Air Depot, previ-
ous orders revoked; David W. Goodrich, from
duty with Organized Reserves, Salt Lake City.

To Ladd Field, Fairbanks, Alaska: 2nd Lieut.
Marvin E. Walseth, from March Field, Calif.

To Langley Field, Va.: Captain Charles A.
Harrington, from Spartan School of Aeronautics,
Tulsa, Okla.; Lieut. Colonel George P. Johnson,
from duty as instructor, Field Artillery
School, Fort Sill, Okla.; Major Harold D. Smith,
from duty with Organized Reserves, 3rd Corps
Area, Pittsburgh, Pa.

To MacDill Field, Tampa, Fla.: Major Lloyd
Barnett, from Langley Field.

To March Field, Calif.: 1st Lieut. Cecil E.
Conde, from Philippines.

To Mitchel Field, N.Y.: Majors Charles P.
Prime, from Bolling Field, D.C.; James E. Duke,
from Chanute Field, Ill.; 1st Lieut. Lewis
Mundell, from Hawaiian Department; Major
Merrill D. Mann, from Panama Canal Department;
Lieut. Colonel Emory S. Wetzell, from Langley

Field, Va., and Captain Gordon P. Saville, from
Office Chief of Air Corps, Washington, for duty
at Hqrs. Air Defense Command.

To Paris, France: Major George C. Kenney,
from Wright Field, Dayton, Ohio.

To Philippine Department: Major Lester J.
Maitland, from Barksdale Field, La.; Captain
James W. Androw, from Randolph Field; 1st Lt.
Richard A. Grossendorf and 2d Lt. Floyd J. Pell,
from March Field; 2d Lt. Henry G. Thorne, Jr.,
from Selfridge Field.

To Puerto Rican Department: 2nd Lieut.
Campbell H. Gould, from Mitchel Field; Lieut.
Col. Carl W. Connell, from Mitchel Field.

To Pittsburgh, Pa.: Captain Emory S. Wetzell,
from Mitchel Field, for duty with Organized
Reserves, 3rd Corps Area.

To Randolph Field, Texas: Major Kenneth C.
McGregor, from detail with Organized Reserves,
5th Corps Area, Ft. Benjamin Harrison, Ind.

Fort Benjamin Harrison, Ind.: Captain
Leslie O. Peterson, from Hamilton Field, for
duty with Organized Reserves, 5th Corps Area.

To Salt Lake City, Utah: Captain William G.
Bowyer, from Kelly Field, for duty with Organ-
ized Reserves, 9th Corps Area.

To Scott Field, Ill.: 2nd Lieut. William L.
Younkin, from Hawaiian Department.

To Washington, D.C.: Major Joseph A. Wilson,
from Bolling Field; Major Wendell M. McCoy,
upon completion of course at Army Industrial
College (Previous orders revoked); Major Horace
S. Kenyon, Jr., from Moffett Field, Calif.,
all for duty in Office Chief of the Air Corps.

Master Sergeants John P. O'Callaghan and
Joseph H. Pust were placed on the retired list
on February 29, 1940, the former at Hickam
Field, T.H., and the latter at March Field,
Calif.

First Lieut. Charles H. Anderson was reliev-
ed as student at the Air Corps Tactical School
and assigned to duty with the Staff and Faculty
of that School.

CONSTRUCTION ACTIVITIES AT ALBROOK FIELD

Bids were opened during the week of March
8th on the construction of 732 sets of offi-
cers quarters in the Canal Zone, and personnel
of Albroke Field, where a very crowded situa-
tion exists, are anxiously awaiting the open-
ing of construction activities.

The J.A. Jones Construction Company of
Charlotte, N.C., was the low bidder on one
group of quarters for officers to be construct-
ed at Albroke Field, Fort Clayton and Corozal,
all Pacific Sector posts.

The Tucker McClure Construction Co., of Los
Angeles, Calif., submitted the low bid on an-
other contract which calls for construction of
quarters at Howard Field, new air base on Bruja
Point, across the Panama Canal from Albroke
Field, and at Fort Kobbe, a small post nearby.

Meanwhile, work was rushed at Albroke Field
on a piece of paved road that will make con-
struction work on officers' quarters on a
piece of jungle cleared for them possible dur-
ing the wet season.

TORNADO HITS BARKSDALE FIELD

A tornado, traveling at a terrific rate of speed and leaving a trail of death and destruction in its wake, roared out of West Texas on the afternoon of March 12th. Timbers of destroyed homes were scattered for miles along the trail. Crossing into Louisiana, the twister struck the southern fringe of the city of Shreveport, La., killing 10 persons and injuring 50, while the property damage was estimated at two million dollars.

Crossing the Red River, the storm continued in all of its fury through Barksdale Annex, where a dozen buildings were demolished and three persons were injured. This section is thinly populated, which accounts for the low list of casualties.

The barracks, quarters and hangars of Barksdale Field were in the direct path of the swirling fury riding on the wings of a wind that was traveling at the rate of 75 miles per hour. Here, the value of concrete and steel was fully demonstrated during the passing of this demon of destruction. The damage to buildings was estimated at ten thousand dollars and, with few exceptions, was confined to damaged roofs and smashed windows. There were no injuries to the personnel of the field. Had the buildings been the ordinary framework type, there is no doubt that Barksdale Field would have been a mass of debris and ruin, with considerable injury to personnel.

Out on the landing field the storm did severe damage to the big Bombardment planes moored outside at the present time because of the absence of available space inside the hangars. Several of the heavy B-18A planes were torn from their moorings and whipped across the landing field. Two ships were carried entirely across the field, a distance of one mile from the hangars. Two of the planes collided, demolishing the wing of one and severely damaging the tail of the other. Giant hailstones accompanied the wind, and the hail played havoc with the fabric covered control surfaces.

Undaunted by the fury of the elements, the men raced from the hangars as they saw the ships threatened with destruction. Although the fury of the storm passed on in a few seconds, the high winds were tossing the Bombers about like a skiff in a squall, and, but for the prompt action on the part of the crews, further damage would have been done. Little time was lost in rounding up the ships and pulling them in. Struggling with the wings of the big Bombers as the wind tossed them about

was something similar to riding a bucking broncho in a Texas Rodeo.

Nineteen planes were damaged, 12 of which number required repair by depot personnel. According to the Barksdale Field Correspondent, it is estimated that it will take ninety days to repair all the planes and put them back in commission. Three planes in flight were periled by the storm. Two Army craft were coming in, but the pilots, observing the storm, turned back and landed at Monroe. A Navy plane coming into Barksdale Field from the west flew around the storm and continued on without stopping.

The scribe of the 27th Bombardment Group, Barksdale Field, adds further information on the tornado, as follows:

"One day last week at the close of the day's operations, an ominous black mass of clouds descended upon us from out of the west. All day it had been hot and sultry, so we welcomed what appeared to be a thunder shower which would give us relief from the heat. After a dead calm lasting some twenty minutes, we realized this storm might not be an ordinary shower. Cars were put in garages, airplanes were staked down more securely - but in this process of precaution the fury of a tornado was unleashed, resulting in damage mounting up into hundreds of thousands of dollars. Torrents of rain and hail stones the size of golf balls added to the destruction done by the wind. The southern half of Barksdale stood in the center of the storm's path. Porches were torn off the non-com quarters, and tile shingles were scattered far and wide from the roofs. The outdoor theater was levelled. One of our B-18A airplanes was blown against a tug, resulting in a badly torn fuselage. Two of our B-18A's were carried, pilotless, down the field a mile or more at almost flying speed. The elevators were torn off of one of these ships.

All electric power was cut for about four hours, during which time our Mess Sergeant, Sergeant Hopper, had quite a time trying to feed hungry mouths in the dark. Several plates were carried out of the mess hall to be used as helmets for protection against the hail stones. Had our barracks been in the direct path of the storm we doubt if they would have stood up, being of the temporary type built for recruit training.

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Our most cordial thanks are extended to Captain Clayton Knight, who drew the cover page for this issue.

COLOMBIAN TROPHY PRESENTED TO 2ND GROUP

Major General Delos C. Emmons, Commanding General of the GHQ Air Force, on Saturday morning, March 9th, presented the Colombian Trophy to the 2nd Bombardment Group, Major Harold L. George, Commanding Officer of this organization, receiving the award. The presentation party, in addition to General Emmons, consisted of Brigadier General Arnold N. Krogstad, Commanding General of the 2nd Wing; Colonel Jacob W. S. Wuest, Air Base Commander of Langley Field; Lieut. Colonel Walter Bender, Air Base Executive Officer, and Major John W. Monahan, Group Executive Officer for the 2nd Bombardment Group.

In presenting the Trophy, General Emmons stated:

"It gives me great pleasure to present to the officers and men of the Second Bombardment Group the Colombian Trophy for the year 1939. This award is made annually to that Group of the GHQ Air Force having the lowest accident rate for the training year.

"It is particularly fitting that you should receive this beautiful Trophy, symbolic of the friendship between the Republic of Colombia and the United States. The spectacular flights by the 2nd Bombardment Group all over North and South America during the past year have excited the admiration of the entire world. Yet during this period you have established a new low for the accident rate. In over two and one-half million miles of flight, not a single man has been injured. This reflects standards of leadership, training and efficiency worthy of the highest praise. In turning over this trophy to you, may I express to you and your men, both personally and on behalf of the GHQ Air Force, my sincere appreciation and congratulations." Statistics compiled revealed that the 2nd Bombardment Group maintained a 0.075 accident rate during the 1939 training period.

The presentation took place inside a hollow square, formed by the personnel of the Group, with airplane No. 10, well known for its many historic flights, in the background on the ramp. The Colombian Trophy was presented to the GHQ Air Force in December, 1935, by Major Benjamin Mendez, of the Colombian Army, in the name of the Republic of Colombia. Each year it is awarded to the Group in the GHQ Air Force with the lowest accident rate per 1,000 flying hours.

The Trophy is in the form of a silver cup, mounted upon a mahogany base. It is approximately 16 inches in height and has a silver plate attached

to the base with an inscription which reads:

TROFEO COLOMBIA
PRESENTADO POR LA AVIACION MILITAR
COLOMBIANA AL GHQ DE LOS FUERZAS
AEREAS MILITARES DE LOS ESTADOS
UNIDOS PARA JUGARSE ANUALMENTE EN
HONOR AL MERITO

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FIRST AIRPLANE ACCIDENT IN PUERTO RICO RESULTS IN FOUR PARACHUTE JUMPS.

The first aircraft accident in the Puerto Rican Department happened on March 5th, with Lieut. Willard Lazarus at the controls of an OA-9 amphibian, near Caguas, Puerto Rico. His passengers, in addition to his crew chief, Sergeant O'Malley, were four officers of the Corps of Engineers, namely, Col. George Mays, Majors J.F. Hyde, Lee S. Dillon and Lieut. J.W. Thompson. Lieut. Lazarus was making a reconnaissance flight around the Island, when both engines quit. He told his four passengers to jump, while he and his crew chief landed the plane in a cane field, causing enough damage to the craft as to require a major overhaul. Miraculously, none of the six occupants of the amphibian suffered any injury.

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NEW TWO-PLACE COMBAT PLANE FOR AIR CORPS

There was recently delivered to the Materiel Division for Air Corps use a basic combat two-place airplane, designated BC-3 and manufactured by the Vultee Aircraft Corporation.

The fuselage is constructed of welded steel tubes to the rear cockpit and monocoque tail sections rearward of the back cockpit. The sides of the fuselage are removable over the steel tube section to facilitate examination of controls, instruments and equipment. Flush riveting is used on the fuselage exterior. The entire wing structure is metal covered and flush riveted. Landing gear is retractable into wells in the wing, and forms a smooth wing contour when retracted. The wing is equipped with full trailing edge flaps.

Power is furnished by a Pratt and Whitney nine-cylinder engine. The propeller is three-bladed, the diameter being ten feet. The approximate gross weight of the airplane with normal load is 5,365 pounds. The wing span is 42 feet, the length of the fuselage 29 feet, 1½ inches, and the height 9 feet, 4 inches.

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NOTES ON RECENTLY ACTIVATED ORGANIZATIONS.

17th Bombardment Squadron (Barksdale):

Saturday, March 2nd, was the date of the first 27th Group Technical Inspection. All airplanes, equipment and hangars were gone over with a fine tooth comb by Colonel C.L. Tinker, Group Commander, and his staff. Following the inspection, three B-18's performed a simulated bombing mission from 16,000 feet on a nearby town.

16th Bombardment Squadron:

A month has passed since the activation of this Squadron. The official duties of the organization as pertain to the administrative side and flying are running pretty smoothly, considering the number of men on detached service at various Air Corps Technical Schools.

Within a short time the difficulties arising from shortage of equipment and men should be just about ironed out and the men will be back with their home organization.

15th Bombardment Squadron:

Lieuts. H.P. Bacot, W.R. Purinton and C.W. Ludwig are pursuing the Bombardiers course conducted by Captain H.Q. Haglin at the 3rd Wing Bombing School at Barksdale Field. This leaves the 15th with but six officers to carry on administrative and other operations.

40th Pursuit Squadron, Selfridge Field:

The old saying about necessity being the mother of invention is still true today. The 31st Pursuit Group, newly formed, carries on all activities in one hangar and, as a result, is very much cramped for space. The radio section especially is contained in a small room. To overcome this lack of space, Staff Sergeants Bonham, Gordon and Syrjala built a test bench which is worthy of imitation.

On a bench, six feet long, a panel of wood, three feet wide, was mounted on a 60 degree angle. On this panel are located all the necessary instruments and equipment for testing service sets. All the necessary ranges of AC and DC are available through various jack and switch arrangements. The whole is protected by master switches for the AC and DC supplies. All the wiring, including a built-in antenna, is concealed.

19th Air Base Sqdn., Hamilton Field:

Major Morrison and 75 enlisted men of this Squadron, assigned to McChord Field, Tacoma, Wash., are all set to go to their new station, and are expecting travel orders at any hour. Major Morri-

son and his family will travel to Tacoma via McChord Field by auto. Eighteen enlisted men will do likewise, the remainder are to go by rail. Most of the dependent members of families will make the journey via the family car. The list as it now stands includes the following non-commissioned officers: Master Sergeant Matthew A. McGraw, 1st Sergeant John L. Bailey, Technical Sergeants Alvin Blum, Gordon Brackett, James Hamer, George Parker, Staff Sergeants Paul George, John Kowalec, Lavon Lash, James MacFarlane, William Molloy, Clem Monk, Guy Murphy, Grant Osborn, Edwin Wilcox and Laurel Shedenheim. Staff Sergeant Edward Martin is being taken off the list, but no substitute has been designated to replace him. Seven Sergeants, 6 Corporals, 25 Privates, 1st Class, and 20 Privates are on the list.

89th Reconnaissance Sqdn., March Field:

This newly activated Squadron is now in a state of nearly complete organization. The advent of several new officers, plus an increase in enlisted personnel, has brought this unit up to necessary strength. Major R.T. Cronan has organized the Squadron into the necessary sections, with their respective heads as follows:

Captain T.W. Steed, Engineering Officer, with Lieuts. Roy E. Warren and Fred LaBorde as assistants;

First Lieut. J.M. Chappell, Adjutant and Lieut. H. Willis, Assistant Adjutant and Mess Officer;

First Lieut. Fred Terrill, Operations Officer, assisted by Lieut. W.E. Taylor;

First Lieut. J.A. Hilger, Photo and Intelligence Officer, and Lieut. R. Emmens, Assistant;

Lieut. Frank Norwood, Supply Officer; and Lieut. T. Suiter, Assistant;

Lieut. Gordon Leland, Transportation; Lieut. Bourne Adkison, Communications;

Lieut. C. Heflin, Armament and Chemical Warfare;

Lieut. Art Carlson, Athletic Officer;

Lieut. Wm. Wrigglesworth, Public Relations and Weather Officer.

Captain R.A. Grussendorf has not as yet reported to the Squadron, being on detached service at the Air Corps Tactical School at Maxwell Field.

Lieuts. Heflin, Norwood, Leland, Taylor, Willis, Emmens, Carlson, LaBorde and Wrigglesworth are nearing the completion of their training in Dead Reckoning Navigation. When these navigators are qualified, the Squadron will be able to boast of a complete roster of Dead Reckoning Navigators. It is expected that a school for Celestial Navigators will get under way in the near future.

About 70 men from this organization have been sent to various Air Corps schools recently to pursue courses of instruction in Armament, Radio, Airplane Mechanics, Photography, Clerical Work, Electricity, Instruments and Bomb Sights.

93rd Bombardment Squadron (H):

According to its scribe, this organization promises to be a new one in more ways than one, for an experiment is in progress at March Field which already presages much for it and may offer something of more than passing interest to the Army as a whole.

"We refer," says the Correspondent, "to our squadron hobby shop; gun bugs, model racing car bugs, photographic bugs, even landscaping bugs; in short, any kind of 'bugs' - that the imagination of the personnel and the confines of an Army post will permit.

"And the justification for all this activity? Well, a little cogitating brings out the fact that the average Air Corps enthusiast is invariably one who revels in gadgets. He loves mechanical things and he loves to tinker, to use his hands and, incidentally, his head. And witness the sad result in the Air Corps thus far. No engineering officer exists whose days have not been harried by swarms of men who, if permitted, would take over his shops, lock, stock and barrel, and proceed to turn out for the fun of it everything from wire puzzles to rowboats and trailers.

"So the 93rd, being new anyway, has decided to follow this obvious lead and, instead of spending all of its budding fund on the usual unimaginative assortment of so-called 'diversions' for the soldiers' leisure time, is in the midst of lending all possible encouragement to its 'bugs,' - incidentally 99% of its personnel.

"So in our sadly restricted space, masquerading under the name of a 'day room,' we have built neat individual work benches. We've bought excellent machinery, saws, grinders, drill presses, jointers - and we'll buy more, lots more, all that the men want.

"Civilian 'bugs' have been brought in to present and defend their hobbies before the assembled outfit. The real 'itch' of the average Air Corps soldier is being given a little consideration and for once, at least in the 93rd, he'll be free to dive into a fully equipped shop at any time of the day or night and turn his day dreams into realities."

16th Pursuit Group, Albrook Field, C.Z.:

The 16th Group suffered and writhed in the throes of the reorganization and

expansion program of February 1, 1940, but all members of the Group now feel that out of the din and chaos has evolved what may be called a "diamond in the rough."

Naturally, a multitude of details and minor operations remain to be accomplished, but the lion's share of the reorganization work has been ably executed, and the Group now is on an operative status.

At present, five squadrons form the Group, namely, the Hqrs. and Hqrs. Sqdn, 24th, 29th and 43rd Pursuit Squadrons and the 44th Reconnaissance Squadron, the latter attached. The 43rd is a re-activated unit.

So far as commissioned personnel is concerned, the situation is somewhat precarious. While the Group has been augmented by the arrival of 2nd Lieut. Philip B. Klein, from Randolph Field, the ranks were thinned by the departure of 2nd Lieut. W.E. Stinson, Air Reserve, to the States to complete his schooling; 2nd Lieut. Ralph Pusey to accept a position with the T.W.A.; and 2nd Lieut. P.M. Brewer, returning for employment by the Spartan Aircraft Co., Tulsa, Okla.

Despite the shortage of officers, the 16th Pursuit Group is kicking up its share of the dust, what with the entire Canal Zone buzzing with activity on every side, including the "dry season" maneuvers.

Present assignment of officer personnel is as follows: Group Commander, Major Arthur L. Bump, Jr.; Group Adjutant, 2nd Lieut. James D. Mayden, Air Reserve; Group Operations and Commanding Officer, Hqrs. and Hqrs. Squadron, Captain Roger J. Browne; Group Engineering Officer, 2nd Lieut. Clinton C. Wasem; Group Materiel Officer and Commanding Officer, 29th Squadron, 1st Lt. James W. Twaddell; Commanding Officer, 24th Squadron, 2nd Lieut. John A.H. Miller, Air Reserve; Commanding Officer, 43rd Squadron, 2nd Lieut. Robert L. Baeseler, Air Reserve; Commanding Officer, 44th Squadron (attached) Captain Forrest G. Allen.

29th Bombardment Group, Langley Field Hqrs. and Hqrs. Squadron:

Although considerable promotions have been made in the Group, the most notable one was that of the Group Commander, Major Vincent J. Meloy, who was elevated to the rank of Lieut. Colonel.

A B-18A airplane, piloted by 2nd Lieut. Bela A. Harcos, with 1st Lieut. H.R. Melton, Jr., co-pilot; Master Sgt. Lawrence, Staff Sgts. Cole, Lamparty, Anderson, and Pvt. 1st Cl. Bacon, departed from Langley Field on the morning of March 15th, enroute to Tampa, Fla., on a week end routine flight.

6th Bombardment Squadron:

This organization was recently increased by the addition of 40 enlisted men; transferred from Barksdale Field, La., Air Corps Unassigned. These men are completing their recruit processing, including pistol instruction, squad drills and attendance at the Squadron Mathematics School, in preparation for their further training at the Air Corps Technical Schools.

29th Bombardment Squadron:

The past two weeks of flying was devoted to transition training on B-17 and B-18A type airplanes

52nd Bombardment Squadron:

During the early days of March, the enlisted strength of the Squadron was increased by 38 new men, who reported from the local recruit training center. The State of Pennsylvania again took first honors in supplying the majority of recruits to supplement the man power of the several squadrons on the field. Some of these men who were desirous of following careers in their chosen branch were immediately sent to the Technical Schools at Scott and Chanute Fields.

On February 28th, the 52nd engaged in its first mission of importance when it detailed one B-17 to ferry General Marshall, Chief of Staff, to Hamilton Field. Captain Caldwell, 29th Squadron, piloted the plane, with Lieuts. J.E. Carmack and C.J. Cochrane as co-pilot and navigator, respectively. With the aid of good weather, the trip in each direction across the continent was made with one stop, the return to Langley Field being made on March 5th.

22nd Pursuit Squadron:

Under the guidance of Captain Barcus, the Squadron has developed to a high state of proficiency, as may well be gathered from the recent inspection. The morale of the officers and men is at a peak. "We are proud to be members of this organization," declares the News Letter Correspondent, "and able to make the statement that now the organization cannot be classed as new but rather as being on an equal footing with the oldest outfit on the line."

25th Bombardment Group (H)

The Group is entering its second month of existence, every phase thereof functioning with a certain degree of accuracy and progress being steady and sure. The personnel have become more familiar with the equipment and the duties to which they are assigned, and before long it is hoped to enter into a complete and more rigid training schedule, so that the Squadron may be able to perform the

missions which are expected from a heavy bombardment group.

12th Bombardment Squadron:

The Squadron entered the second month of operation with a great deal of activity. The personnel are rapidly becoming acquainted with their specific duties and assignments. The usual training schedule is in full swing, and the officers are flying the airplanes as much as the time and weather will permit. Lieuts. David A. Tate, A.C., and Raymond F. Bloszies, A.R., successfully completed a night navigation mission to Key West, Fla., and return. This served as a graduation flight, needed to complete the course at the Navigation School held at Langley Field.

10th Bombardment Squadron: This organization has been practically grounded the past two weeks, due to weather and maintenance difficulties. Considerable time and effort were spent in getting the Supply and other departments functioning smoothly, and with the starting of the second month of operation it is hoped to be a little closer to the normal routine.

35th Bombardment Squadron:

This Squadron enters its second month carrying out a full schedule of routine flying and training. Several of the members have been assigned to detached service at the Air Corps Technical Schools, where they will undergo a course of instruction. It is hoped to start the training of enlisted aerial gunners and aerial bombardiers in the near future.

Hqrs. and Hqrs. Squadron:

This organization has been carrying out a prescribed training program, and attention has been centered on the completion of the initial organization. Several of the men were assigned to the Technical Schools at Scott and Chanute Fields.

MATERIEL DIVISION FEATURED

The April issue of the aeronautical magazine AVIATION features six pages of photographs of various activities at the Air Corps Materiel Division, Wright Field, Ohio. The text accompanying these photographs pays high tribute to the splendid work being done in the Materiel Division and relates how their research and testing have helped commercial as well as military aviation.

SYNTHETIC TEXTILE FIBERS TESTED AT WRIGHT FIELD
By the Materiel Division Correspondent

The first commercially available synthetic fibers were rayons or regenerated cellulose fibers. There were four types and they are listed below in order of their importance to the Air Corps:

1. Viscose
2. Acetate
3. Cupramonium
4. Nitrocellulose

Viscose rayon is readily available but, like the other types, its strength is greatly decreased when wet. Several types of viscose rayon have been used in experimental parachutes, and a viscose rayon parachute was made for the Air Corps as early as 1931. Due, however, to the inherent characteristics of the fiber, production of parachutes made from this rayon was not approved. All rayons have lower elongation than silk, which has been universally accepted as the standard parachute fabric. Silk also has greater strength for a given weight of fabric than rayon.

Acetate rayon has a very low elongation, but its wet strength is highest of the rayons due to the chemical composition of the fiber. Recently a new acetate fiber has been developed, and its performance in woven fabric is so unusual that it is being used in experimental parachutes now being made up. This new type Acetate fiber has been employed in webbing which has desirable properties.

Cupramonium rayon is not readily available, and its characteristics do not warrant the consideration of this fiber for Air Corps use. The same is true of Nitrocellulose rayon. Moreover, it is extremely inflammable - a characteristic which constitutes a hazard and is a reason that this type of fiber has never been produced in large quantities.

Rayon fibers of suitable properties will be of value to the Air Corps for parachute fabric, webbing, sewing thread, tape, suspension lines, lining materials, insulation fabrics, and many other items of equipment.

More recently, two entirely synthetic fibers have been offered to the Air Corps - Nylon and Vinyon. The former is the more readily available at the present time and has properties which render it as a suitable substitute for silk. Both Nylon and Vinyon are less affected by acids and alkalis than silk or rayon, and these two fibers will find a wide variety of applications in the Air Corps, particularly where high elongations and strength are required.

The Air Corps has not found applica-

tion for the synthetic woolen fibers, the principal reason being that the development of this type of fiber has not been as urgent in this country as in some foreign countries. Wool is used in flying garments, uniforms, and other items which require light weight and high insulation properties. At present, the domestic supply of wool exceeds Air Corps requirements.

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DATA ON NEW B-19 ARMY BOMBER

According to a recent War Department announcement, the Army Air Corps during this year expects delivery of another new Bombardment airplane. Representing a further step toward solving the question of the best combination of size, speed, range, weight and carrying ability, in view of the latest requirements for Bombardment airplanes, this new type is larger than any airplane, military or commercial, heretofore constructed in this country.

The new airplane, which is being manufactured by the Douglas Aircraft Corporation, will be somewhat similar in appearance to the present "Flying Fortress" type, but will be much larger. The general characteristics of this airplane are approximately as follows:

Gross weight.... Approximately 70 tons
including a useful load of some
28 tons.

Wing spread..... Over 210 feet
Speed..... Over 200 MPH
Engines..... 4 - Totalling 6,000 HP
Range..... More than 6,000 miles
Propellers... 16 ft. diameter, 3 blade,
constant speed.

Landing gear.... Retractable, tricycle
type.

Other provisions include heated and ventilated cabins and sleeping quarters for the crew of ten men. Complete radio, navigation and signalling equipment is installed. The sleeping quarters, radio compartment and navigators' compartment have been soundproofed to permit more efficient operation. Every item showing any promise of adding to the efficiency of the crew or the airplane has been given consideration during the period of its development.

The progress toward the realization of the best airplane for a specific purpose is principally due to three things: The wide experience of the aircraft industry in the design and construction of a long line of commercial and military all-metal, multi-engined

(Continued on Page 22)

V-8414, A.C.

WRIGHT FIELD POWER PLANT DISPLAY AT AIR CORPS DEMONSTRATION
By Lt. R. J. O'Keefe, A. C., Power Plant Laboratory

During the early part of November, 1939; the Chief of the Air Corps directed that a committee of officers meet for the purpose of preparing a plan for a demonstration of Air Corps Tactical Equipment and Accessories. A committee, consisting of Majors A.I. Ennis, W.H. Lanagan and Captain C.S. Irvine decided on a tentative plan.

The purpose of this article is to describe informally a small part of the Air Corps Demonstration, namely, the Power Plant Exhibit. This description is undertaken in the hope that Service personnel who could not attend the demonstration may derive some measure of benefit from it, and that it may also serve as a resume for those who had the opportunity to be present.

The Power Plant Laboratory of the Materiel Division, Wright Field, was directed by the Division representative, Captain C.S. Irvine, to prepare a chart showing a list of engines and accessories which would be available for demonstration at Bolling Field. This Laboratory immediately contacted contractor manufacturers of related equipment to determine their willingness to cooperate with the Air Corps in making as complete a display of Air Corps engines and accessories as would be possible without holding up production schedules or contract deliveries of equipment. The manufacturers understood that the exhibition was to be purely of an informative nature and was not to have the aroma of commercialism evidenced at, for instance, at New York World's Fair. As was expected, the manufacturers of engines and accessories gave their whole-hearted assistance to the enterprise.

Photographs of manufacturing plants were mounted to the rear of the equipment with information as to the size, location, floor space, and number of personnel employed, in order that the magnitude of the aircraft industry necessary to the production of aircraft might be understood by all. The above system was carried throughout the entire demonstration in order to give a uniform method of presenting equipment used by the Air Corps.

Contractor representatives were sent to the demonstration by the manufacturers to assist in setting up the displays on special engine stands and in glass cases which had been used for past aeronautical fairs. These permitted not only the mounting of bulky equipment in a small space but added to their smart appearance.

The Power Plant Laboratory was allotted a space of 3500 square feet in the geometrical center of Hangar No. 2 at New Bolling Field. Three Power Plant officers arrived at Bolling Field on January 9th to receive and set up the equipment coming in from factories and Air Depots by air transport, freight and truck. No one can possibly visualize the tremendous quantities of crates and boxes which passed through Bolling Field during this time.

Master Sergeant Holtzman, Major Lanagan's right-hand man, assumed the burden of placing this equipment in the Power Plant space and uncrating it. He turned out to be remarkably tireless and patient and no task appeared to be too difficult for him. His labor battalion, consisting of casuals with approximately one month's service, who were being equipped at Bolling Field, prior to transport to foreign stations, also gave an excellent account of themselves during long hours of hard work in rain, snow and cold.

Eventually, heavy engines and accessories were uncrated and spotted in the display space allotted, and power lines were rigged and connected to operating equipment. Engines were mounted on exhibit stands, small parts were displayed on tables, and all engines and parts shined and polished. Several noncommissioned officer mechanics were provided by Sergeant Holtzman to do the more delicate jobs, such as attaching accessories to wooden mock-up engines. Their skill was evidenced by the fact that not one mock-up was damaged, which was remarkable, considering that heavy engine accessories were mounted on light plywood flanges rather than the reinforced metal flanges found on standard engines.

As the visitor entered the Power Plant Display, he saw Pratt & Whitney equipment on one side and Wright Aeronautical on the other. The Wright Aeronautical equipment started with a table of finished and raw forged engine parts. A radial engine crankshaft, gears, pistons, connecting rods and drives were laid out so that even the layman could see the intricate, finely machined and polished parts that evolved from a crude forged shape. An early 2-cylinder Lawrance engine was displayed as the forerunner of the present Wright radial air-cooled engine. Next in line came a cutaway J-5 and cutaway R-1820 showing the movement of internal parts as the crankshaft turned. Several service engines from 450 to 2,000 h.p. were mounted

ed to show comparative sizes with horsepower ratings. Among these were the latest types of high output engines, such as the R-2600, 14-cylinder, 2-row, and the R-3350, 18-cylinder, 2-row radial air-cooled engines. A 2-speed supercharger clutch was shown in an assembly and in an exploded section to give an idea of its numerous parts. The same method was followed in an exploded crank case which indicated the various sections with their driving gears and attaching flanges. In glass cases and illuminated by indirect lighting, these items formed a beautiful exhibit.

Across the aisle, Pratt & Whitney engines and parts were arranged on tilted exhibition stands and tables. A finished reduction gear, a finished and unfinished cylinder assembly, and many Air Corps engine types from the small training engine of 450 h.p. to the larger combat types were displayed. In the high output class were the R-1834, 14-cylinder, 2-row, the R-2180, 14-cylinder, 2-row, and the R-2800, 18-cylinder, 2-row radial air-cooled engines. The R-2800 with a 2-stage supercharger and long extension nose section aroused the curiosity of many visitors. It had the appearance of a Howitzer cannon rather than an engine. A cutaway R-1830 was particularly attractive to visitors. It had been completely cut in two, 1/16 inch off center, and was a marvelous piece of machine work. Every part was shown in its true cross section, giving an idea of the many detail parts required in the assembly of a complete aircraft radial engine. An R-1535 engine was used to demonstrate the installation of an accessory gear box, the purpose of which is to furnish a remote drive for the numerous pumps and accessories which in late years have cluttered up the rear section of some of our engines.

Continental Motors Corporation presented three engines mounted on special stands: a small 75-hp. 4-cylinder, opposed, air-cooled engine; a small radial air-cooled training engine; and the O-1430, 12-cylinder, liquid-cooled, flat engine with right-angle drive. The latter was a wooden mock-up, but so realistic that it took more than a second glance to determine this fact. This was the first showing of the right-angle drive and it made clear the possibility of its installation in an airplane wing or fuselage, thereby permitting a location of the propeller which would give a maximum obtainable efficiency. An O-1430 crankshaft and forked type connecting rods were shown on the display table. These units demonstrated the precision and high grade workmanship necessary in finished engine

parts.

The Aviation Manufacturing Corporation, Lycoming Division, was represented by two small radial air-cooled training engines, placed on either side of the O-1230, 12-cylinder, flat, liquid-cooled engine. This flat engine showed the trend to a powerful power plant of minimum depth, in order that it might be completely submerged in a wing section without need of a nacelle. The aerodynamic value of such an installation is obvious. A rough casting crankcase section and a finished one were shown side by side to show the general construction of this part.

Four engines comprised the Allison Engineering Company group, including the various extension shafts utilized for different installations. The standard V-1710, 12-cylinder, liquid-cooled engine was placed side by side with the extension shaft engine used for pusher propellers and the installations. The V-3420, 24-cylinder,

engine with its four banks of cylinders was displayed in mock-up form, which was partially of wood and partially of actual engine assemblies. Of all engines exhibited, this probably attracted the most attention. It demonstrated a possible arrangement of multiple cylinders on one crank case for very high output, with a resulting low weight per horsepower. All of these engines were mounted on low tubular exhibit stands and indirectly lighted by fluorescent lighting.

A small Jacobs radial, air-cooled training engine was shown in a group with two Menasco, inverted, in-line, air-cooled, 4-cylinder training engines. The two Menasco engines were identical except that one was equipped with geared supercharging.

Three Ranger engines consisted of a cutaway L-440, 6-cylinder, air-cooled, inverted, in-line training type, which was mounted horizontally to show the internal construction; a standard L-440; and a V-770, 12-cylinder, inverted, air-cooled type. This group showed training engines used in many "bought off the shelf" training airplanes used in the C.A.A. training program at civilian pilot training schools.

The remaining space allotted to power plant displayed the many accessories and auxiliary equipment whose development is directly charged to the Power Plant Laboratory. Chandler-Evans, Holley Carburetor Co., Thompson Products, Titeflex Metal Hose Co., and Pump Engineering Service Corporation showed an assortment of pumps, valves, fittings, cables, carburetors, and other Air Corps equipment. Bendix-Stromberg submitted ignition switches, V-8414, A.C.

cutaway magnetos, cutaway carburetors of the float and pressure types, and an operating magneto unit showing a cutaway magneto reproducing sparks across spark gaps. The American Bosch Corporation presented 14-cylinder and 18-cylinder magnetos, with the former operating an ignition indicator. This indicator showed in a small unit whether or not each individual spark plug was operating. A fuel injection unit was displayed inviting comparison with the large and bulky carburetor which performs the same function. Sectionalized and service units of spark plugs were submitted by Champion Spark Plug Co., B.G. Corporation, and Aero Spark Plug Co.

A new field servicing unit which prevents drawing of water from the bottom of a gasoline drum as the airplane is serviced was demonstrated. A cutaway drum with lighted windows showed the float mechanism operating to shut off the pumping system as the water level was reached. This will undoubtedly be welcomed by Service personnel who have the problem of water in gasoline drums to contend with.

Parker Appliances finished the Power Plant Display space with a large power tube bender, a large hand tube bender, and a table of fittings, valves, fuel cocks, priming pumps, and small tube bending hand tools. Sergeant Schmidt was loaned by Major Lanagan's organization to demonstrate bending of tubing, which he did with enthusiasm.

The Chief of the Air Corps ordered that all displays be finished by the night of January 17th. After working on the set-up of equipment from January 9th to the evening of January 17th, from 8:00 o'clock in the morning until 10:00 o'clock at night, the Power Plant Display was ready. A preliminary showing was held for the Chief of the Air Corps on January 18th. On January 19th, the demonstration was officially opened to invited guests. At this time additional personnel had arrived from the Power Plant Laboratory, Wright Field, to assist in conducting visitors through the display. On January 20th also, many Service personnel and distinguished guests were visitors, including the President of the United States. By his order, the Air Corps Demonstration was continued an additional three days for the benefit of the public. GHQ was called on to help Division personnel as visitors' guides. It is believed that the outstanding memory for Division personnel, however, will be the effect of concrete on feet after many hours of direct contact.

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FEBRUARY WEATHER AT HAMILTON FIELD

Captain Paul H. Johnson, Weather Officer at Hamilton Field, Calif., furnished the following data as a summary of weather conditions observed at this field for the month of February, 1940:

- Total Precipitation, 11.10 inches.
- Maximum Precipitation for 24 hours 4.01 inches, February 26-27.
- Number of days with Precipitation (.01 inch or more), 15.
- Maximum Temperature for month, 65.9 Degrees F. on February 3rd.
- Minimum Temperature for the month, 34.2 Degrees F. on February 15th.
- Average temperature for the month, 52.5 Degrees F.
- Number of clear days, 3.
- Number of Partly Cloudy Days, 10.
- Number of Cloudy Days, 16.

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FIRST WING COMMANDER INSPECTS MOFFETT FIELD.

Moffett Field, Calif., was host to Brigadier General Frank D. Lackland, on March 6th and 7th, when he made his first formal inspection of the post. General Lackland, First Wing Commander of the GHQ Air Force, was honored by a reception on the evening following his arrival in his B-18 flagship.

On the morning of March 7th, the airplanes of the 9th Air Base Squadron, the 82nd Observation Squadron, and the 35th and the 20th Pursuit Groups were on the line, and General Lackland inspected the pilots, crews and ships. After the inspections, the 20th and 35th Pursuit Groups passed in aerial review for the General.

After his tour of inspection with Colonel Robert E.M. Goolrick, Commanding Officer of the Post, General Lackland departed for Monterey, Calif., to visit Major General Walter Sweeney, Commanding the 3rd Division, engaged in maneuvers in that vicinity.

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Data on the New B-19 (From Page 19)

aircraft; the exhaustive flight testing by the Army Air Corps of earlier similar models; and the fact that the Army Air Corps is constantly investigating new discoveries and inventions which show promise of improving the efficiency of its airplanes.

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The activities of the San Antonio Air Depot, Duncan Field, Texas, continue to grow. There are now approximately 1220 employees at this Depot.

V-8414, A.C. Gray

CIVIL GRADUATION OF CLASS 40-A FROM KELLY FIELD

The first class of student flyers for the Army Air Corps to undergo their initial phase of training at the recently organized Civil Air Schools graduated from the Air Corps Advanced Flying School, Kelly Field, Texas, on the morning of March 23rd. This class, known as Class 40-A, which began training in July, 1939, at the beginning of the present Air Corps Expansion Program, is the largest single class so far graduated from Kelly Field since its beginning during the World War in 1917. The class consists of 220 pilots, including eight commissioned officers from other branches of the Regular Army, who have been transferred to the Air Corps, and 212 Flying Cadets, who were commissioned second lieutenants in the Air Reserve and placed on active duty.

Brigadier General Barton K. Yount, Assistant Chief of the Air Corps, delivered the graduation address, which is quoted below, as follows:

"Colonel Robins, Colonel Lohman, Colonel Brooks, distinguished guests, fellow officers and members of the Class:

I do not recall any graduation at the Training Center that has had greater significance or importance to the Air Corps than these graduation exercises that are being held here today. To the young gentlemen of this class this day signifies the attainment of high ambition that is shortly to be evidenced by the presentation of diplomas and silver wings that you have looked forward to for so many months. You have selected a career that has required the elimination of many, and that has left only a highly selective group here today. You are justifiably proud of that achievement.

This occasion brings to us, however, additional significance and importance. We see the past events that have made this day possible. We see also the future that lies ahead and the importance that graduation of this class has upon the Air Corps we are now building. We visualize the role you and the many classes that are to follow through this school will play in the air defense of this nation.

In his address to the Congress on January 12, 1939, the President of the United States announced his program for the augmentation of the Air Corps. This unprecedented expansion means an increase of 140 percent in our airplane strength during a period of two years. It also meant an increase of 25,000 men in our enlisted strength. And it meant the training of some 2,300 additional military pilots. All of these tasks were to be completed prior to July 1, 1941. This problem in terms of pilot training required a sustained training rate three times greater than has ever been reached in our schools before in peace time. Obviously, such a task could not be accomplished with the facilities then available to the Air Corps, nor in the relatively leisurely manner to which we have been accustomed.

The solution as we saw it required the utilization of a number of excellent civil flying schools available in our country, in a manner that would provide for a great increase in the productive capacity of our facilities at the

Air Corps Training Center. I must say that the proposal received little encouragement. It was a drastic departure from the system of training that has served us well for many years. We saw in it more than an answer to the immediate problem. It provided, in our opinion the answer to our war time pilot training requirements. Only because of General Arnold's insistence was this plan adopted. It had to work. There would be no possibility of turning back once we had started this new course of action.

We needed more than just a plan, however. We needed hard, inspired and cooperative effort on the part of all who had the actual job to do. We needed the greatest cooperation and understanding from the nine civil schools that have participated in this program; the untiring effort of the supervisory personnel, both commissioned and enlisted, assigned to these schools; and most of all, we had to have capable direction of all the effort entailed in the initiation of this new system of training by Colonel Robins and his staff. We needed a supreme effort on the part of Colonel Brooks, Colonel Lackland, and Colonel Lohman, and all the personnel assigned to Randolph and Kelly Fields in effecting the necessary revisions of methods to effect the training of classes of unprecedented size under extremely adverse conditions with respect to the availability of training airplanes and experienced personnel.

We are, indeed, fortunate to have with us today, seated right here on this platform, nearly all of those who have had important responsibilities in carrying out this plan - nearly all of those who have been responsible for the graduation of Class 40-A, the first class to graduate under the new system of training. I know that you who have directed this task ask little else of this occasion than the opportunity to look with me at this class of some 220 young pilots that sit out in front of us. A fine, a real, a convincing testimonial of the careful planning, the hard work, the understanding, the loyalty, that each one of you has contributed to the success of this undertaking. You can be proud of the part that you have played in making this graduation possible. You can derive with me a feeling of inspiration and satisfaction here today that will serve us well in the accomplishment of the job that still must be done.

We have seen something of the events that have made up the past of this class - now let us look to the future. Within a few days all of you will be well on your way toward the experiences that you never anticipated when you started your flying training. I refer to your forthcoming participation in the largest peace time concentration that the Army has ever held. You will shortly find yourselves members of the new stream-lined triangular divisions, divisions with the enormously increased mobility and fire power dictated by the requirements of modern warfare. These divisions are now in their concentration areas engaged in the training and preparations for the corps concentration which will be initiated by tactical movements starting April 8th. You will be assigned to companies and like units of the dismount-

ed ground arms. An unexcelled opportunity awaits you to learn at first hand the technique, tactics and operations of the ground forces in the field. You will learn lessons about mess, supply and administration that will be applicable in nearly every way to Air Corps units operating under the same conditions.

The Chief of Staff, General Marshall, was present here at the Training Center a few weeks ago, and at that time conceived the idea of giving your class the rare opportunity of observing the maneuvers in the Southeast Section of the United States. While your presence at the maneuvers will interrupt your training and cause some of you personal inconvenience, what you will there learn and the experience you will gain will pay back many fold to you as individuals and to the Army for the expenditure. Let me urge you not to waste this opportunity which the Chief of Staff of the Army has been personally responsible for making available to you. During the coming years of military service you will find ample use for what you will learn at the maneuvers.

The unit to which you are assigned will probably have not more than one or two officers. You will be amazed by the prodigious amount of work that these officers will be doing. Under these conditions you must be tolerant of the absence of consideration that would otherwise be given you were these organizations operating on normal duty status. If you can help - pitch in with everything you have and show them that you belong to the Army and are as interested in their success as you are of your own.

Your participation in these maneuvers will give you a chance to gain tremendous professional advantages that will be denied to all but a few Air Corps officers. The Air Corps is a part of the Army and it is incumbent upon you to make the most of this opportunity. You will be our representatives at these maneuvers. Your attitude, your conduct, your interest, and your capability will be under constant scrutiny. Your attitude will be watched and reported to the Chief of Staff. I confidently expect that the example you set will redound to the credit of the Air Corps. Remember, you are full-fledged officers and will be treated as such. You will be considered as observers rather than as students. The benefits you receive will depend upon your initiative and energy and intelligence.

After completion of this period of field duty on the corps maneuvers you will be assigned to various Air Corps tactical squadrons. At the outset you will be given transition flight training in the service types of aircraft applicable to the branch of aviation to which you are assigned. You will then proceed to learn the technique and tactics of flying these types individually - and their operation in combat unit training. In all your flying a high degree of air discipline will be a constant requirement. Your flight instruction will be carefully supervised. Your ground training has just started, for ahead of you you have a great deal to learn about maintenance engineering, armament, communications, navigation, bombing and gunnery, and many other

subjects.

Remember that the character of the training that you have had during the past nine months is to be subjected to a final test after you join these tactical organizations. You will be carefully watched as the first graduates of the new system, and the success of this system of flying training will be measured largely by your ability to accomplish the work that you will find awaiting you there. We want a continuation of the spirit, the effort, and the willingness to learn that has thus far served you well.

There are many important items which I could present to you today if time permitted. In some of them I know you would be extremely interested. Such things as these: the status of the Expansion Program; the changes we are making in our military aircraft as a result of the experiences coming from the wars abroad; the tactical lessons which have been gleaned from the air fighting in Europe; our recent experiences appearing before Congress and in furnishing supporting data for our current appropriations; a description of the new experimental planes and the engines which will power them. These and many other similar facts and data undoubtedly would be interesting to you. But time does not permit nor does opportunity afford of their complete discussion here! Let me say this, however, that every alert Air Corps officer should be thinking along these lines - reading and studying and taking advantage of his marvelous opportunity of keeping abreast of this air-wise world. Never before at any time in our history or in the history of any other people has development been so rapid or advancement so fast, and only the swift, sure and wise can keep the pace.

I congratulate you on this day of graduation. You can well afford to be proud of yourselves as I am proud of you. I am glad that I will have the opportunity to meet each one of you on this platform and give you the diploma that you so well deserve. There are few young men in the United States who would not give everything within their power to change places with you. Make the most of it and you have a most interesting and delightful career ahead of you."

The roster of the graduates (Class 40-A) appears on page 10 of this issue. Through a typographical error, this roster is erroneously captioned Class 40-C.

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The Army Air Corps is giving every encouragement to qualified enlisted men to become Flying Cadets. At Hamilton Field a bright group of young men are burning the midnight oil in preparation, and attending night school classes at Marin Junior College, Tamalpais High School and San Rafael High School.

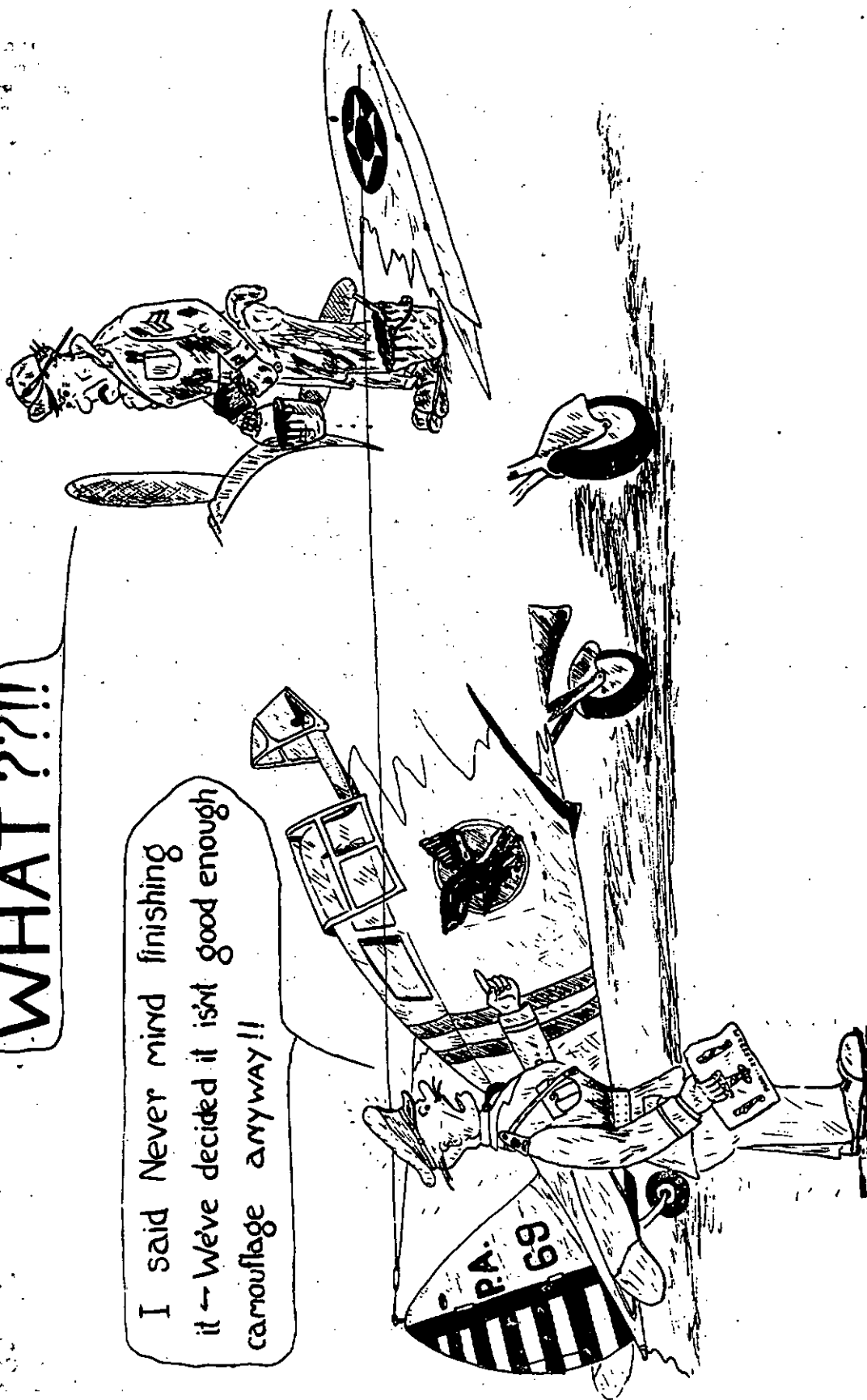
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Appreciation is expressed to Private Patrick E. McCullen, 6th Signal Service Company, Selfridge Field, Mich., for the cartoon featuring this issue of the News Letter.

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WHAT??!!

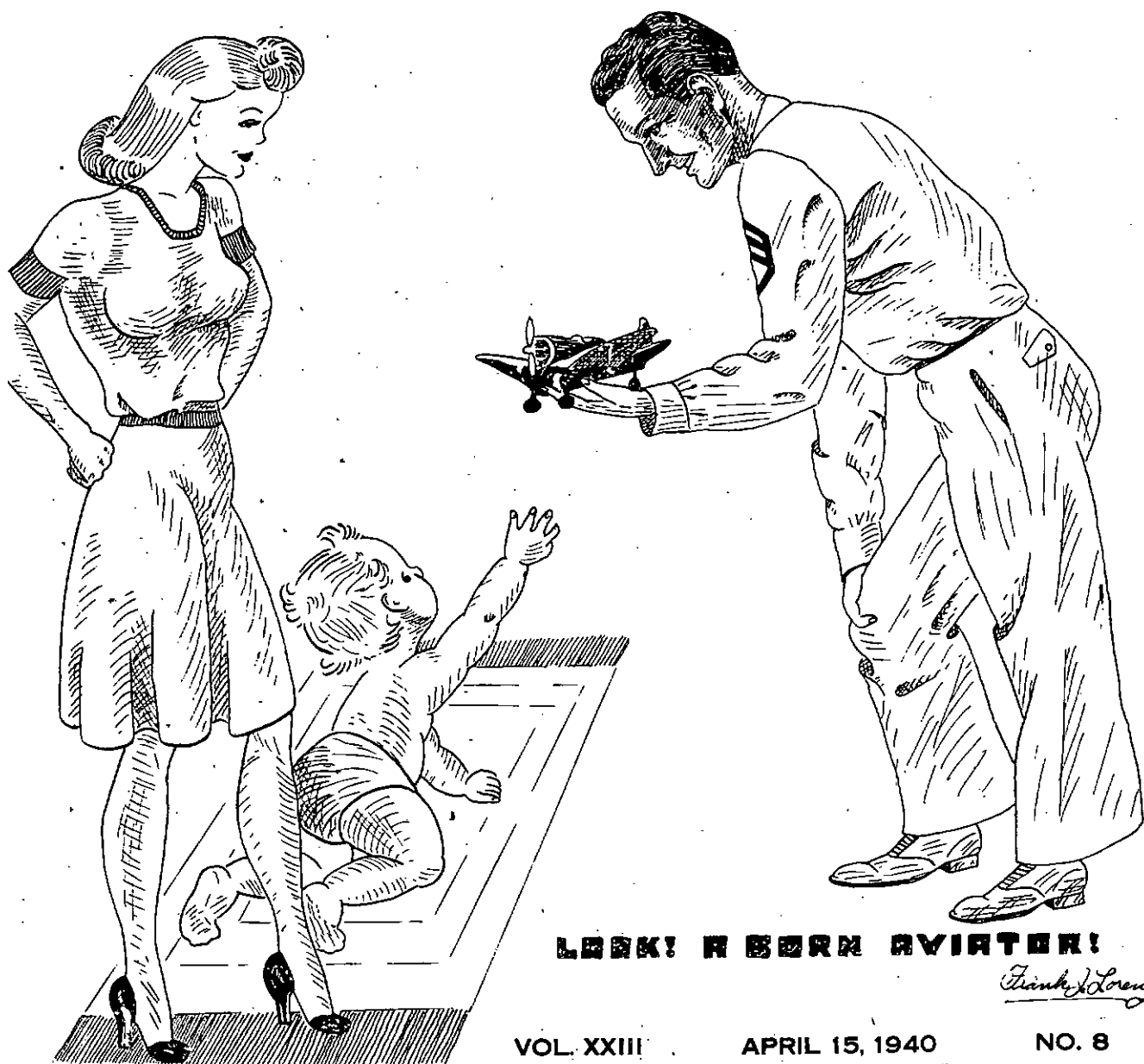
I said Never mind finishing
it - We've decided it isn't good enough
camouflage anyway!!



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100-111111

AIR CORPS NEWS LETTER



LOOK! A BORN AVIATOR!

Frank J. Loreng

VOL. XXIII

APRIL 15, 1940

NO. 8

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The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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GLASS FOR THE UNITED STATES ARMY AIR CORPS

By E. J. Wyrostek
Materials Laboratory, Wright Field

Glass - it's such a common article that most persons using it for the innumerable purposes of business or pleasure do not stop to consider that each usage represents a distinct development. The U.S. Army Air Corps has a more discriminating appreciation of its value. For an Army pilot to fly an airplane containing no glass whatever would be like flying in a perpetual fog, and his flying career might be an exceedingly short one.

The Air Corps can fly "blind" and make instrument landings, but all pilots enjoy seeing where they are going. Besides, under war conditions, it would be necessary for the pilot to see his enemy; see him or them first and clearly, and to see his military objectives, without distortion or displacement of the objects. It would be a serious matter to find that, when bombing or navigating, due to the displacement of light through the glass, the gun battery aimed at or the star sighted were not in the position in which you saw them.

The new laminated glass, which consists of two sheets of plate glass with an inter-layer of plastic between, is much improved over the old variety. The adhesion of the glass to the inter-layer is remarkable. It is far more resistant and flexible to impacts both at sea level and normal temperatures, and at high altitudes and extremely cold temperatures. This impact resistance is important in landing, or in case one flies into a duck at 300 miles per hour.

The advent of substratosphere flying made necessary extensive tests on the bursting strength of laminated glass windows of pressure cabins. A steel jig was constructed to form a burst-test chamber for various shapes and thicknesses of laminated glass specimens. Each specimen was bolted to the jig to form one side of the test chamber, and then was burst by air pressure forced into the test chamber. These tests were conducted at normal tempera-

tures and at temperatures as low as -40 deg. F. Results of such tests furnished the information necessary for the selection of the proper strength of laminated glass window essential for safety in airplanes operating under any conditions.

Glass now is polished so perfectly that tests conducted at Wright Field show it entirely free from distortion. Distortionless two-dimensional curved laminated glass for windshields of Air Corps airplanes is being manufactured by leading glass companies. Difficult three-dimensional forms can also be moulded.

Distortion effects due to imperfectly curved windshields can be projected on a screen in a darkened room. A curved laminated glass windshield is held vertically in a beam of light from a small but bright light source. A shadow image of the windshield is cast on a white screen, so it can be observed. If the shadow picture is of uniform brightness, there is no distortion; but, if alternate dark and bright wavy lines, dark circular spots, or brilliant star-shaped points appear, the windshield is optically imperfect.

There are many types of glass, each with particular properties; glass with very high index of refraction, which is light gathering capability, and glass with such low coefficient of expansion that it can be heated to a cherry red color and suddenly cooled in cold water without cracking.

A new development is a heat-treated glass that is four times as strong and flexible as ordinary glass. When shattered, this glass breaks into blunt granules instead of sharp fragments. If it is a laminated heat-treated glass, it can be rolled up like a carpet after it is fractured. Unfortunately, this glass becomes opaque when cracked, the visibility then being zero.

Another important product is a bullet-proof glass which is composed of a layer of glass laminated together with

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plastic inter-layers. This glass has great energy absorbing powers and impact resistance.

There is a water-clear laminated glass with almost perfect light transmission properties, and a tinted glass that will pass through any desired range of colored light, or remove any color of light. Then to travel further along the light spectrum, where we ordinarily cannot see light, there is a glass which will transmit deep ultra-violet rays, which are short waves sometimes called "black light." These cause sunburn and sometimes, to one exposed to them, very serious inflammation of the eye. Beyond the visible spectrum there are the long infra-red rays which we cannot see. Some glass will stop these rays and other glass permit them to pass through. In the laboratory one can photograph in the dark by using infra-red rays.

Years ago we had crystals that could polarize light; that is, permit light traveling in one plane only to pass through, but these crystals were expensive and could be obtained only in small form. Now, the Air Corps can obtain laminated glass with plastic inter-layer that will polarize light. Take two sheets of polarized laminated glass and hold them together. Objects can be seen through them distinctly. Rotate one glass a quarter of a turn, and the two polarized sheets become opaque; everything blackens out. Single sheets of polarized laminated glass can be used in goggles to reduce the bright reflections of water or desert sand.

All of the above types of glass can be used in airplanes or navigation instruments, microscopes, camera lenses, prisms, mirrors, and light filters. Another interesting glass product that does not look like glass at all but like a very fine silk is glass cloth. This has a remarkable tensile strength, is not damaged by high humidity, will not mould, is not attacked by insects, and is non-inflammable. The combination of glass cloth with other materials may eventually prove to possess many useful applications.

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STAINLESS STEEL WING

A series of static tests on a stainless steel outer wing panel is now nearing completion at the Air Corps Materiel Division at Wright Field, Dayton, Ohio. These tests were undertaken with the definite purpose of developing structural parts in a material other than the aluminum alloy at present in general use for such parts. This material would be used to supplement alu-

minum alloy if necessary in time of emergency. A number of these wings will later be installed on service airplanes of the BC-1 type for observation as to ease of maintenance and repair.

In this development a decided effort has been made to construct without major change in the wing design these stainless steel wings with a strength equivalent to that of the original aluminum alloy panels without increase in weight. A weight reduction even has been attempted.

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THE WRIGHT ESCADRILLE

The Wright Escadrille, which was formed sometime ago by a group of civilians, many of them employees at Wright Field, has been growing apace. Lieut. John P. Callahan, Reserve, member of the Materiel Division Equipment Branch, has been conducting a ground training course lecturing once each week. The study of Civil Air Regulations was concluded with the March 5th meeting. Air Navigation has also been covered. To date, twelve hours have been spent in classroom lectures. Sixty to eighty men have been attending these meetings. The ground training course will be continued until June 1st.

A monthly publication is included in the plans of the organization, and flying is entering the curriculum of the club's activities. A committee was recently appointed for the purpose of obtaining quotations and data on used airplanes, as a number of the members desire to own planes but do not desire to purchase new ones while they are in the training stage of flying.

Such clubs as the Wright Escadrille indicate the existence of a definite sympathy with the aims of preparedness among young American professional and business men, as well as an enthusiasm for flying itself. Such activities are capable of building up fine aeronautical reserves which might add materially to the nation's air strength in time of need.

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ADDITIONAL CONTRACTS FOR B-17 BOMBERS

The Hon. Louis Johnson, Assistant Secretary of War, announced under date of April 8th that, in addition to existing contracts with the Boeing Aircraft Company, Seattle, Wash., additional Bombers of the B-17 type are being contracted for at an additional cost of approximately \$8,000,000. These planes will be built under the terms of existing contracts and are of the 4-engine "Flying Fortress" type. They will be designated as Model B-17D. V-8435, A.C.

THE BUILDING PROGRAM AT MAXWELL FIELD

Maxwell Field's huge building program, necessitated by its mushroom growth from an enlisted complement of 625 soldiers to over 3,000 within the past eight months, is about to enter upon its final phase with authorizations available for an enlisted men's mess and recreation building, an addition to the station hospital and construction of a wing to the officers' club. All three projects will supplement existing facilities at the Air Corps Tactical School.

The mess hall and recreation center will be a welcome addition and has been sorely needed. The three dining rooms at Maxwell Field are overcrowded at present and the new building will alleviate that condition. Construction on it has been in progress for about three weeks. It will be one story high, 160 feet long by 70 feet wide, with a 40 x 50 foot wing on the west. It is to conform to the Maxwell Field architectural motif. The building's framework will be of hangar steel; its walls stucco covered, hollow tile. The sum of \$30,000 has been earmarked for construction, WPA labor being employed. It is expected to be completed about June 1st.

Colonel Walter R. Weaver, Air Corps Tactical School Commandant, who assisted in drafting the plans, incorporated several items which will provide additional recreational features for the airdrome's enlisted men. These include an office for the garrison's chaplain, library, reading room, barber shop, Red Cross office and two instruction rooms.

The addition to the officers' club will cost approximately \$23,000. It will be 84 feet long, 32 feet wide and one story high, with a basement extending the length and width of the extension which will provide much additional space.

Major George S. Deaderick, Quartermaster Corps, Constructing Quartermaster at Maxwell Field, advertised for bids on the 50-bed addition to the flying field's station hospital on March 5th. They were to be opened on April 3rd, the building operations commencing shortly thereafter. The addition will have two floors and a basement and elevator facilities for both the old and new building. It is expected to be ready for occupancy by January 1, 1941. It will contain wards, private rooms, kitchen, diet kitchen, mess hall, X-ray room, morgue and laboratory.

Construction of the 26 new type barracks, which commenced last August, is virtually completed. Most of them are

now occupied by officers attending the Air Corps Tactical School and enlisted men stationed permanently at the airdrome. These one-story, hot water heated buildings of hollow tile construction, stucco covered, are a distinct departure from the squadron type. Occupancy is five per room, with inter-connecting bath rooms for each two rooms. All rooms contain steel lockers for clothing.

The areas between the buildings have been graded, and grass is soon to be sown. Rows of trees extending parallel to the buildings have also been planted.

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TRAINING PROGRESS AT RANDOLPH FIELD

Class 40-D at the Air Corps Primary Flying School, Randolph Field, Texas, has reached the half way mark and is still slightly ahead of schedule. The low ceilings and rains of the past two weeks, however, have cut into the time gained during the previous good weather.

Night flying has been going along without mishap, and now all students have been dualled and soloed at night.

Four sections in both "C" and "E" flights are now flying the BT-14, some starting at the beginning and the others changing from the BT-9 as the BT-14's arrived. There is quite a difference in the flying characteristics of the airplanes. However, little trouble has been experienced in transition. Four officers from "A" Stage are leaving to become students at the Air Corps Tactical School, viz: Captains Cheyney, Power, Moody and 1st Lieut. Renshaw.

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Lieut. Col. Malcolm C. Grow, Medical Corps, formerly Chief of the Medical Section, Office Chief of the Air Corps, and since Jan. 13, 1939, Second Wing Flight Surgeon and Sanitary Inspector at Langley Field, Va., received orders for duty at MacDill Field, Tampa, Fla.

Born in Philadelphia, Pa., Nov. 19, 1887, Col. Grow graduated from Philadelphia Central High School in 1905, Jefferson Medical College in 1909, and the School of Aviation Medicine, Brooks Field, Texas, in 1928. As a flight surgeon he has flown approximately 1200 hours.

During the World War he served first with the Imperial Russian Army as surgeon of the First Siberian Corps, participating in the Battles of Postovy and Stockshod (Brusiloff's campaign). For his Russian Army service he was awarded the Orders of St. George and St. Stanislaw. After the United States entered the conflict, he transferred to the American Expeditionary Forces. He participated as Flight Surgeon in the Alaskan Flight in 1934, from Washington, D.C. to Fairbanks, Alaska, and return.

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CHIEF OF STAFF FLIES TO HAWAII By the Hickam Field Correspondent

General George C. Marshall, Chief of Staff, U.S. Army, arrived Monday, March 11th, on the "Clipper." Just as his ship landed at the Pearl Harbor Base, the 18th Wing passed overhead in review formation. As the great body of ships, in perfect formation, passed in review, they presented a most impressive and inspiring spectacle.

These airplanes took off at dawn and escorted the "Clipper" to its landing on Pearl Harbor. As General Marshall stepped ashore, he was greeted by General Herron and his staff, while the formation passed over twice in review.

General Marshall's stay was extended beyond original expectations, and on his departure by "Clipper" on March 14th, another aerial review passed over the "Clipper" mooring at Pearl City, and subsequently escorted the big flying boat to Diamond Head as an "Aloha" to the first Chief of Staff ever to visit Hawaii.

General Marshall's talk to the officers of the Hawaiian Department, delivered in the theater at Fort Shafter, T.H., was a model of restraint, in that he confined himself to fundamental issues which could be understood and appreciated by the youngest officer present.

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AIRLINE STEWARDESS ENTERTAINED BY ARMY ARMEN IN HAWAII.

Miss Martha Sampson, the airlines stewardess who won the title of "Miss Aviation" at the San Francisco World's Fair, received as a reward a trip to Honolulu, where she stayed at the Royal Hawaiian Hotel. Miss Sampson visited Hickam Field, and while flash bulbs flared like heat lightning she met General Walter H. Frank, 18th Wing Commander, who showed her his favorite B-18, Number 13, as well as some "pea-shooters" down from Wheeler Field for the occasion.

Miss Sampson was a most agreeable and charming guest, and proved her statement that she always had time for the Army by attending Aloha parties at both Wheeler and Hickam Fields. Finding her stay too brief for the many nice things to do, she prolonged her stay two more weeks.

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HICKAM FIELD PERSONNEL MOVE TO BARRACKS

Saturday, March 16, 1940, was a "Banner Day" in the history of the 17th Air Base Squadron, Hickam Field, T.H. The

entire Squadron, including the Orderly Room, vacated the cantonment area and moved into the newly completed barracks. Approximately 900 men are now enjoying the modern conveniences their new home has to offer.

In accordance with the Air Corps Expansion Program, 384 recruits arrived on the Army Transport REPUBLIC on March 20th. At present, these men are attached to the 17th Air Base for recruit training, following which they will be assigned to various squadrons.

On March 1, 1940, the 5th Bombardment Group picked up its collective bunk and barrack bag and moved into a section of what is the largest barrack in the Army, built to accommodate 3,000 men for mess and quarters, as well providing accommodations for the performance of squadron administrative duties.

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PLENTY OF DUST FROM AUXILIARY FIELDS

Farmers in the vicinity of Randolph Field, Texas, have been watching with a fearful eye the great clouds of dust that have been billowing into the air in recent weeks. The great "Dust Bowl" area is not slowly engulfing Southern Texas yet, however, for the dust is only that rising from the auxiliary landing fields near Randolph Field. These fields, dusty even at their best during most of the year, are worse since the recent expansion program has increased their use to such an extent that grass, weeds, or anything that might hold the soil is blown away.

Although the unusually clear weather during the past few weeks has increased the amount of dust on the auxiliary landing fields, it has its compensations, for the weather has been so good recently that the class is now 42% ahead of its normal schedule in flying time.

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FAST GOING IN A B-17B

On a B-17B check-off flight, Major Newton Longfellow, pilot; 1st Lt. J.L. DuFrane, Air Res., co-pilot; 2d Lt. R. F. Ezzard, Air Res., navigator; Sgts. F. R. Alford, engineer; S.D. Beaton, radio operator, and Pvt. D.E. Hawley, assistant engineer, all of the 88th Reconnaissance Squadron, Hamilton Field, Calif., left that field on March 18th for the Holman Municipal Airport, St. Paul, Minn. Major Longfellow remained overnight in Minneapolis, while the remainder of the crew spent the afternoon and evening at Fort Snelling, Minn. The trip from St. Paul to New York City, the

(Continued on Page 6.)

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TEXAS SKIES

By 1st Lieut. Edward W. Suarez, Air Corps

The air gets rough at times, but during the early morning hours and late afternoons a satiny smoothness comes over the air. Not like the mountainous country and the regions with varying pastures and streams, this condition of the air varies little from day to day. Three hundred and sixty-five days of this type of weather, mixed here and there with an even distribution of seasonal bad weather, makes Randolph Field, together with the other fields located in the Training Center, the ideal spot for student training. Therefore, to those who located these schools, we turn out our smartest salute.

With two classes completed on schedule, one now in the final stage and the fourth off to a good start during its first three weeks, we at Randolph have grown to appreciate the well rounded weather conditions of this section. True, we have had our bad weather, and at times it has made us hustle to keep up with the snappy schedule since the inauguration of the short three months' courses back in October of 1939. There was a day when the weather element was not considered as a potential hindrance to finishing a schedule on time. But today, with 140 minutes per student per day, after the initial solo stage, required to maintain the schedule, three or four bad days in succession are cause for serious thought.

The alternating of one week of afternoon work and one week of morning flying operates to good advantage in maintaining daily schedule. During the week that a flight works in the morning, each of the two sections of a flight is available for two hours of flying, because while one section is flying the other attends ground school. Therefore, with the division between dual and solo work, a quick change in airplane assignments will seldom net more than an average of one hour and 30 minutes. During the week of afternoon work, however, with all students available for the full four hours, and with sufficient airplanes available, it is not difficult to make up the time lost during the week of morning work and at the same time store away for a rainy day a few extra minutes in the daily average. And so, with all things equal and with a reasonable amount of luck, Randolph can be depended upon to maintain schedule.

The one type of weather which seems to claim more of the bad weather days than any other is the low stratus which moves in from the Gulf of Mexico, or

occasionally form over the land itself. These clouds will normally dissipate by noon and so are rarely responsible for the loss of a full day.

Snow fall and bitter cold weather are seldom the reasons for the cancellation of flying. This year, however, will be remembered as the one when snow fell to the extent that everyone had the feeling that he had suddenly been transplanted to the plains of Siberia. For one full night and half of the next day the snowfall was comparable with that in other parts of the United States. However, the airplanes were out at noon and, for the first time in the history of Randolph Field, airplanes took off on a snow-covered flying field. But even with this eventful snow day and the frequent cold fronts that swept out of the north, sufficient good days were available to finish "under the gun."

The night breezes constitute another characteristic of the weather lending itself ideally to student training. These winds are usually directly from the north or south, or are sufficiently light to have little or no effect on a cross wind landing. This condition permits the tee to be set with the long axis of the field as a rule, thereby causing all landings to be made directly in front of the control tower and under the eyes of the supervisory personnel.

Take the good with the bad, compare the weather of the San Antonio Section with that of any other section of the country, and it will be found that for an even distribution of good and bad weather days, San Antonio will be hard to beat.

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Seventeen Reserve officers, most of whom are on active duty at Patterson Field, O., or Fort Knox, Ky., recently participated in a two-day examination conducted by the Final Examining Board at Wright Field, Ohio. By passing the test, the Reserve officers become qualified for a commission as second lieutenant in the Regular Army Air Corps. Commissions are granted on the basis of relative standing and efficiency for vacancies becoming available in the Fiscal Year 1941.

Only the professional examination covering aircraft engines and air navigation was given this group, as all the candidates had the requisite college training. The Final Examining Board at Wright Field, appointed by the 5th Corps Area, was composed of Major Rudolph W. Propst, Captains David J. Ellinger, Louis E. Massie, George J. Eppright, John K. Garhart, and two Medical officers, Colonel Cadmus J. Baker, Post Surgeon, and Captain A.H. Schwichtenberg.

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COLLISION NECESSITATES TWO FORCED JUMPS

On March 4, 1940, residents of Honolulu were eye-witnesses to a spectacular aircraft accident in which two Army pilots were forced to resort to their parachutes.

Shortly after six o'clock in the morning, many residents of Oahu were awakened by the drone of the motors of Pursuit airplanes from Wheeler Field and Bombardment airplanes from Hickam Field, which had taken off to escort the "Honolulu Clipper," which was bringing the Army's Chief of Staff, General George C. Marshall, to Hawaii on a tour of inspection.

As the huge clipper settled up to the Pan-American Airways landing in Pearl Harbor, the Air Corps units began to pass in review, with the Bombers in the lead, followed by the Pursuit planes, P-36 and P-26 types. As the formation of P-26's were making a right turn over John Rodgers Airport at an altitude of 2,000 feet to join in the procession, 2nd Lieut. Walter S. Rector, leading the fourth element of three airplanes in the 15-ship formation, collided with 2nd Lieut. Malcolm A. Moore, who was flying the left wing position of the third element of three airplanes. The propeller of Lieut. Rector's airplane completely severed the tail section of Lieut. Moore's ship, which shot upward out of control and then flipped upside down. As it shot upward, it came directly into the path of the airplane piloted by Lieut. Wilkins, who was flying on Lieut. Rector's right. Lieut. Wilkins had to pull up violently into a sharp climbing turn to avoid crashing into Lieut. Moore. A small piece of the wreckage knocked a hole in the windshield of the ship piloted by Lieut. Simpson.

With his plane upside down, Lieut. Moore unhooked his safety belt, fell out of the plane, pulled the ripcord of his parachute, and drifted safely to earth.

The several seconds which elapsed between the instant of the crash until he finally freed himself from his airplane were, to say the least, nerve-racking and hours to Lieut. Rector. He immediately turned off the ignition switch and thought he could make a landing at nearby Hickam Field, but on second thought decided that his landing gear was undoubtedly damaged to such an extent that an attempted landing would be extremely hazardous. In addition, the airplane was nose-heavy and was settling fast.

Lieut. Rector's plane was unable to straighten up. This condition was caused by the tail part of Lieut. Moore's

airplane having become entangled with and attached to the landing gear of Lieut. Rector's airplane. The wing section of this type of Pursuit ship prevents the pilot from seeing the landing gear. His plane having gone into a vertical spinning dive, Lieut. Rector released the controls to "bail out." The force of the dive held him to the back of the seat, but with super-human force he kicked himself free of the falling ship. By this time the plane had fallen to about an altitude of only 600 feet, so his silk life saver had barely checked his fall before he struck the ground on the sea-side of Fort Kamehameha, only 50 feet from the point where his airplane hit the ground.

The remains of Lieut. Moore's plane struck about 250 yards from the other airplane, Lieut. Moore landing in the shallow water about 300 yards from the Fort Kamehameha shore.

Lieut. Moore, a former University of Hawaii student, is the son of W.C. Moore, of Koloa, Kauai, Hawaii. He graduated from the Air Corps Training Center last September and arrived in Hawaii with his wife, the former Miss Willie Mae Ransom, of Texas, and was assigned to Wheeler Field, where he is a member of the 6th Pursuit Squadron.

Lieut. Rector, a native of Houston, Texas, arrived in Hawaii last June, and is also a member of the 6th Pursuit Squadron.

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Fast Flight in B-17B (From Page 4.)

next day set a new flight record between those two cities, the 1,085 miles being covered in four hours and 8 minutes. The flight back to Hamilton Field was made over the same route, with an overnight stop in St. Paul.

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NEW CONSTRUCTION AT GLENDALE, CALIF.

Construction of a new barracks building, 180 x 30 feet in size, has been started at the Curtiss-Wright Technical Institute, Glendale, Calif. The new building is for the use of Air Corps enlisted men in training as mechanics, and will supplement two similar buildings constructed last August.

When the new facilities are put in use, each man will have a room of his own, cubicle style, with 750 square feet of air space per man. Unusual window area and wardrobe facilities will be provided. Major C.C. Moseley, owner of Curtiss-Wright Tech. Institute, estimates the cost of construction at about \$20,000. The building will be completed about May 31st.

GRADUATION OF OFFICERS FROM AIR CORPS TACTICAL SCHOOL

Appropriately, the only music provided for Saturday's Air Corps Tactical School graduation exercises conducted in Austin Hall (March 30th), was the muffled roar of airplane motors from Maxwell Field's distant hangar lines. Brigadier General Jacob E. Fickel, Assistant to the Chief of the Air Corps, Washington, D.C., delivered the principal address and presented diplomas to the 102 graduates. His remarks were succinct. Included in his address was the statement that "You have the prospect of another year and a quarter of extremely strenuous work. Until our present expansion program is finished on June 30, 1941, we all will have to do double duty. You may rest assured the program is progressing and will be completed on time. We are securing new equipment at the times and in the quantities as planned; our mechanics are being trained according to the plan; our new pilots are surpassing all our expectations."

The class of 102 officers commenced its studies of aerial combat tactics on January 8th. The graduation program consisted of an invocation by Chaplain John MacWilliams, U.S. Army; remarks by Colonel Millard F. Harmon, Jr., Assistant Commandant of the Air Corps Tactical School; introduction of General Fickel by Colonel Walter R. Weaver, Commandant of the Air Corps Tactical School; address by General Fickel and presentation of diplomas; benediction by Chaplain MacWilliams.

The ceremonies were conducted in Austin Hall. The platform was attractively decorated with gladiolas, pansies and palms. Members of the Air Corps Tactical School Faculty, Colonel Weaver's staff, and the families of students attended. Following the ceremony, there was a hasty packing of personal effects, good byes and departures for home stations. The majority left Montgomery by rail. The last official act accomplished at Maxwell Field by the class was the signing of the officers' register in post headquarters, indicating their time of departure.

Saturday's class was the third in the series of short term courses to be graduated at Maxwell Field. Prior to the initiation of the three-month classes, the term had been of nine months' duration. Of the 102 graduates, 96 were from the Air Corps, two from the Chemical Warfare Service, one each from the Infantry, Field Artillery and the U.S. Navy, and one (Flight Leader Arturo Meneses) from the Chilean Air Force.

The complete roster of students follows:

lows:

Lieut. Colonels Armin F. Herold, Perry Wainer, John Y. York, Jr., Arthur J. Melanson;

Majors Dache M. Reeves, George D. Lundberg, Lawrence A. Lawson, Leonidas L. Koontz, Howard Z. Bogert, Glenn C. Salisbury, Harold D. Smith, Frank L. Cook, Walter T. Meyer, James E. Duke, Jr., William C. Farnum, Winfield S. Hamlin, William J. Hanlon, Joseph T. Morris, Walter K. Burgess, Hugh C. Downey, George W. Goddard, John H. Glasscock, Joseph P. Bailey, Clarence F. Horton, Russell L. Williamson, Oscar L. Rogers, Harry C. Wisehart, Arnold H. Rich, Charles D. McAllister, Ray H. Clark, John S. Griffith, Oscar L. Beal, Laurence C. Craigie, James F.J. Early, John G. Salsman, Howard M. Turner, Richard W. Gibson;

Captains Clarence S. Thorpe, Edgar T. Noyes, Linus D. Frederick, George V. Hollomen, James H. Andersen, Charles H. Deerwester, James W. Andrew, John C. Crosthwaite, John A. Tarro, Arthur J. Lehman, Russell Keillor, Burton Hovey, Jr., Mark K. Lewis, Jr., Robert L. Easton, Henry M. Bailey, Donald W. Benner, Edward H. Porter, Arthur L. Smith, Donald D. Arnold, Donald B. Smith, Bryant L. Boatner, Frederick L. Anderson, Jr., George F. Smith, Archibald M. Kelley, Ralph O. Brownfield, Donald H. Lyon, Murray C. Woodbury, John P. Kenny, Lambert S. Callaway, David D. Graves, William T. Colman, Paul M. Jacobs, Lewis H. Parker, Edwin M. Day, Joseph J. Ladd, Emery S. Wetzel, Ezekiel W. Navier, Melie J. Coutlee, Thomas J. DuBose, Richard C. Lindsay, Irving H. Selby, Chester P. Gilger, William C. Dolan, Casper P. West, Philo G. Meisenholder, James P. Newberry;

First Lieuts. Richard A. Grussendorf, Mark E. Bradley, Jr., Carl A. Brandt, Harold L. Smith, Paul G. Miller, William J. Bell, Robert M. Lee, Charles F. Densford, Karl Truesdell, Jr., Paul Burlingame, Jr., Don O. Darrow;

Second Lieut. Thomas K. Hampton.

Officers from other arms in attendance were Major March H. Houser and 1st Lieut. Ephraim M. Hampton, Chemical Warfare Service; Captain Charles L. Booth, Field Artillery; Captain Howell J. Jordan, Infantry; Lieut. Commander Joseph L. Kane, U.S. Navy, and Flight Leader Arturo Meneses, Chilean Air Force.

Maxwell Field's Air Corps Tactical School faculty consists of Colonel Walter R. Weaver, Commandant; Colonel Millard F. Harmon, Jr., Assistant Com-

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THE AIR CORPS ENGINEERING SCHOOL

Classes of the Air Corps Engineering School, Wright Field, Ohio, during 1939-1940, were discontinued due to the exigencies of the Expansion Program. It was good news to learn that a class for the 1940-1941 year is to be convened once more. Due to the number of trained Air Corps officer personnel required to carry out the Expansion Program, in all its phases, officers of this first class will be selected from among those stationed at the Materiel Division and the Air Depots only. This year the number of officers taking the course will be reduced from ten to six.

For several years it has been the general policy of the Air Corps to assign the majority of officers completing the Air Corps Engineering School courses to the Materiel Division, where full application could be made of the engineering training received from the School. In addition, several officers have been selected from each class to attend leading technical universities for the purpose of further specialization along aeronautical engineering lines. The opportunity to enter the Air Corps Engineering School classes at Wright Field is one eagerly sought by the younger officers with a technical bent throughout the service, and is productive of one of the most valuable types of officer in the Air Corps - the flying engineer.

With the class of 1941-1942, it is proposed to resume the practice of selecting and passing upon the applications of officers from the whole service, and to increase the number participating from six to the accustomed ten. In this way opportunity will once more be extended to officers, especially those of the younger groups, to increase their training in technical engineering and furnish a steady inflow of technically trained officers to the Air Corps. These new men from all over the service are freshets of which an organization such as the Materiel Division stands in constant need.

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A NAVIGATION MISSION TO MIAMI

The 5th Bombardment Squadron, utilizing two Type B-18A airplanes, recently completed an extended navigation mission to Miami, Fla. The two airplanes left Mitchel Field, N.Y., and proceeded separately to Pope Field, N.C. After a brief stop for refueling, the flight was resumed, and shortly after five o'clock the planes landed at the Municipal Airport at Miami.

During the two-day stay in Miami, the

5th Squadron personnel were given ample opportunity to study the functioning of the patrol activities of the 21st Reconnaissance Squadron, the members of which extending every courtesy to the visiting personnel. The return trip was begun on March 8th, and included an overnight stay at Maxwell Field, Ala. Continuing on from Maxwell Field, the planes landed at Mitchel Field late in the afternoon of March 9th. Those participating in the flight were Major Francis B. Valentine, Lieuts. Richard M. Bylander, Earl E. Bates, John L. Sullivan, Randall H. Carpenter, George S. Rozwend, Paul C. Schauer, Woodrow L. Ainsworth, Malcolm M. Heber, Staff Sergeants Sanchez, Swan, Guluy and Krazewski. Lieut. Colonel Michael G. Healy, Medical Corps, accompanied the Air Corps personnel.

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GRADUATIONS FROM TECHNICAL SCHOOL

A total of 122 students graduated on March 1, 1940, from the Chanute Field branch of the Air Corps Technical School from the courses and stations as indicated below:

Fields	Airplane Mechanics	Aircraft Welders	Aircraft Metal-Workers
Barksdale	1	1	2
Bolling	-	1	-
Brooks	1	1	-
Chanute	56	1	1
Columbus	1	-	-
Fort Sill	-	1	-
Fort Riley	1	-	-
Hamilton	1	-	3
Kelly	2	-	-
Langley	2	1	3
Lowry	10	-	-
Maxwell	1	1	1
March	-	1	3
Mitchel	-	-	2
Moffett	2	1	1
Patterson	2	-	-
Philippine Army Air Corps	4	-	-
Randolph	10	1	-
Scott	-	1	-
Selfridge	-	-	1
Totals	94	11	17

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ENLISTED MEN PROFIT BY REFRESHER COURSE

In the 63rd School Squadron, Kelly Field, Texas, a refresher mathematics course given by Staff Sgt. Kosicki and Pvts. Shaver and Boles, has borne fruit, according to the latest examination given for entrance to the Air Corps Technical School. On an examination given after the course, the percentage of men passing exceeded the number passing a similar test given before the course by 48%.

V-8435, A1643

WEST POINT '39 HITS KELLY FIELD

elongs moving
to gain
no one's

ent of gas.
Ed. Note: This article was especial-
ly written for "The Pointer," the pe-
riodical published by the cadets of the
U.S. Military Academy at West Point.
Note: The author expressed the belief,
however, that it could also be used to ad-
vantage in the Air Corps News Letter.

Along about this time every year, many
first classmen at West Point begin to
wonder whether they took the Air Corps
physical examination just to have their
eyes refracted, and thereby be excused
from classes, or whether they took it
because they really wanted the Air
Corps. Of course, this article is only
propaganda, to which all West Pointers
are immune (at least so we think), so I
know it will have little or no influ-
ence upon your decision this June. In
fact, it should not!

Lt. General W.H. Frank told the Class
of '38 when at Mitchel Field, N.Y., for
a brief period in the summer - "If you
want it, take it; if you don't, leave
it. Don't be talked either into the
Air Corps or out of it. Don't be in-
fluenced by flying pay. Be a man; make
your own decision. Don't have someone
else make it for you. By all means, if
you want it, take it; if you do not,
then for Heaven's sake, leave it." It
was good, sound advice, and every offi-
cer in the Air Corps will say it is the
best advice to give a West Point class.

I am writing this from Kelly Field in
San Antonio, where 42 men of the Class
of 1938 have been retained as instruc-
tors and as squadron officers. Since
the Class of '39 reports to their in-
structors tomorrow morning at Kelly
Field, after having successfully gradu-
ated from Randolph Field and the civil-
ian elementary schools, I was especial-
ly interested in noting their assign-
ments.

"Moose" Mather, in spite of all ru-
mors to the contrary, has capably nego-
tiated all obstacles and has arrived as
big as life at Kelly Field. He has
been assigned to Lieut. R.C. McBride,
'38, formerly of C Company. Lieut.
Carter Duncan, '38, will still be pull-
ing in the "plebian pussies" of Billy
Jones, Joe Kingsley and Jumping Jumper.
Perry Hoisington missed getting his
brother, Gregory, as an instructor, but
did draw Lieut. Lou Coira, '38, former-
ly of D Company. Hollstien is also in
Lieut. Coira's flight. Lieut. Bob
Breitweiser, '38, A Company, will take
Mel Engstrom in hand, and if Mel has as
much trouble staying off the D list as
he did at the Point, it is fortunate
that he will have an ex-engineer to help

him with his homework. Evans, Farmer,
Fitzgerald and Foerster make up the
rest of B-Weiser's outfit. Riggs, Sul-
livan, Bill Smith and Bob Sears have
been assigned to Lieut. Kincaid, '38.
"Butterball" Wilson and Wright will do
their best to make things interesting
for Lieut. "Colonel" Pardue, '38. Lieut.
Preuss also has a flight of five '39ers.
Yours truly, that's me, will face two
former "M" Company men, just as I faced
them not so many long years ago when
they came through that Sally-port. Well
do I remember Carpenter with his straw
hat and Jack Christian with his famous
Time Magazine piece of poop. But there
will be a restraining influence in my
flight as Roy Brischetto, of my own
class (good old '38) is also reporting
to me as my student, and if he ranks
me, he'll keep me well in hand. Maybe!

We all look for a very interesting
class, and it is going to be fun work-
ing with men whom we know and like.

Of course, there are many other men
out of the 156 from the Class of '39
who elected the Air Corps that are
still with us. Flying isn't that diffi-
cult. Ninety-nine student officers are
still going strong, and of this number
undoubtedly well over ninety will re-
ceive wings in June. Sam Samuel, "Alice"
Long, Riggs Sullivan, "Butterball"
Wilson, "Curly" Edwards and Ray Will
are all here and teamed up with Lieuts.
Ed Rogner, Jack Ryan and Charley Sher-
bune, all of '38, to clean up the local
basketball leagues. It was good to
watch Sam, Sully and Rog together again,
and I do wish Coach Leo Novak could
have seen them. They really opened up!

Class '39 may have hit Kelly Field -
(title) - but did they get "whammed"
tonight! The old married '38ers shel-
lacked '39's best in volley ball, four
games to one - a "skunking!" However,
I must confess that the young bucks
had a slight advantage in the basket-
ball game that followed. Enough about
that!

Those men who are interested in the
Air Corps are undoubtedly familiar with
the new expansion program set-up. Three
months at the civilian primary school
of your own choosing, three months at
Randolph Field, Texas, and three months
at Kelly Field, Texas. Kelly Field's
mission is to transform the student
from just a good pilot to a military
pilot. After becoming acquainted with
the BC-1 (Basic Combat training ship),
Kelly starts the students right off
with formation, night flying, cross-
country, and advanced instrument work.
The course is fast and interesting.

Neither the student nor the instructor has a spare moment once they get under way. The beauty about the Air Corps is that there is so much to learn. Flying is actually the easiest phase. A good flyer is a Jack-of-all-Trades. He knows his radio like a Signal Corps expert, knows machine guns as well as an Infantryman, design like an Engineer, engines better than the motorized Field Artilleryman, and meteorology and navigation like a sailor.

Lieuts. Rogner, Palmer, Bayer, Johnson and Wernberg (all '39) are already being broken in as Engineering Officers. Lieut. Don Saunders, '38, heads the aerial photographic department. Lieuts. Harvey Barnard, Ralph Lister, "Charley" Sherburne (more '38) are squadron adjutants. Lieuts. Jim Isbell, Henry Hugglin, Bert Harrison, Willie Kieffer, Bill Brett, Spicer, Virge Zoller and others are flight instructors.

An interesting note for you men of '40 who reach Kelly Field is that by the time you arrive here the Advanced Flying School will be equipped with a large number of new advanced trainers. The first ship of this type arrived from the factory only yesterday. It is undoubtedly the world's finest training ship, cruising about 180 miles per hour and landing as slow as 63 miles per hour. It is fully equipped with all the latest safety devices developed at the Flying School and is designed especially for training missions. At present, the entire school is equipped with BC-1's, which certainly cannot be classed as obsolete. They are equipped with retractable landing gear, hydraulic flaps, constant speed prop, and cruise easily at 170 miles per hour. Also within the coming year the new Kelly Field - NEW barracks, NEW quarters, NEW headquarters, NEW clubs, NEW hangars - will be completed. This is no "sink rumor" either, as already these buildings are half completed. Then "old" Kelly Field will dare send out lots of pretty pictures of itself as other posts are wont to do.

All of this is, of course, propaganda but, gentlemen, here is work, lots of good hard work - but also fun. See you at Kelly Field a year from today!

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Spring in "Sunny San Antonio" is already in evidence at the 63rd School Squadron with the appearance of a variety of blooms and budding shrubs around the Squadron area. This Squadron will have a chance to put their aptitude for landscaping to a real test soon when the new quarters of Kelly Field are occupied. Since they have done so well with the old barracks area, it is ex-

pected that the 63rd Squadron area in the new section of the Field will truly be the garden spot of the Air Corps Advanced Flying School.

Easter turned out to be quite a gala occasion for the children of the Kelly Field personnel, with an Egg Rolling Carnival held by Mrs. Rupp, wife of 1st Colonel Rupp, Kelly Field Chaplain. Mrs. Rupp was assisted by the teachers of the Post Sunday Schools and Sergeants Taylor and Purvis. The Egg Rolling was attended by 250 children between the ages of one and twelve. The children were divided into three groups, according to age, and three grand prizes were given to each group. There were also additional prizes for finding the marked eggs. The kids had a grand time.

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Tactical School Students Graduate

(Continued from Page 7)

mandant; Lieut. Colonel Harlan W. Holden, Secretary. The directors of the various departments are Colonels Leo A. Walton, Sidney Erickson and Major Muir S. Fairchild. The instructors are Lieut. Colonels John C. Mullenix, Byron T. Burt, Jr., John Y. York, Jr., Lieut. Commander Joseph L. Kane, U.S. Navy, Majors Allison J. Barnett, Fenton G. Epling, George W. Kicker, Alden H. Waitt, Frederick Von H. Kimble, Frederick M. Hopkins, Byron E. Gates, Charles T. Thomas, Roland Birn, Randolph P. Williams, James E. Parker, Augustine F. Shea, Ralph F. Stearley, Ralph A. Snively, Robert C. Oliver, Earl E. Partridge, Captains Stephen C. Lombard and Earl W. Barnes.

Arrangements were perfected for the next class, which commenced on April 8th. Lieut. Colonel Holden stated that 97 officers had to date been ordered to attend, one of whom being Lieut. Wego Chang, of the Chinese Army.

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Eleven Captains of the Air Corps were given temporary appointments to the grade of Major, with rank from March 1, 1940, as follows:

Otto P. Weyland	Wilfred J. Paul
Kirtley J. Gregg	Glenn L. Davasher
George A. Whatley	William L. Ritchie
Sheldon B. Edwards	John H. Dulligan
Clarence S. Thorpe	Walter G. Bryte, Jr.
Howard H. Couch	

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Major Emil C. Kiel and Captain Wm. T. Hitts, Jr., students at the Army War College; Washington, D.C., have been assigned to the Office of the Chief of Staff for duty with the General Staff.

THE LONG AND SHORT OF IT - IN NAMES

A sign of relief has descended on the 19th Pursuit Squadron, Wheeler Field, T.H., since official steps were initiated to change the name of Private William Talandziaviczius, the "man with the alphabet," to William Taland.

The greatest sigh is predominant in Staff Sergeant Chakajda's voice because can one blame him if the man preceding Talandziaviczius happens to possess the shortest name on record - Pvt. Joe Ra? Staff Sergeant Chakajda has the responsibility of accounting for the men at Reveille roll call. Should one wonder why he is satisfied? But let him not complain, for "Chakajda" is really not in the class of "Brown" or "Jones." Anyway, think of those sleepy-eyed and yawning men who didn't get those extra forty winks just because the bugle call was on time. Getting up like that isn't much fun, and waiting the added five minutes for the Sergeant to pronounce the NAME isn't any fun at all.

Of course, this is no reflection on the character of any of the men involved. It is just one of those unfortunate circumstances which, however, can be changed, much to the satisfaction of the Squadron Commander, the 1st Sergeant, and other Squadron personnel.

Talandziaviczius, already called Taland by his fellow men, comes from Boston, Mass. After having successfully completed his training period, he was recently assigned to the 19th Pursuit Squadron for duty as gas attendant on the refueling truck servicing the fast Pursuit planes of his Squadron. He is of Lithuanian ancestry and is very well liked by those who know him, especially by those who have ribbed him thoroughly about his name.

Private Ra, on the other hand, fails from Brooklyn, N.Y., and graduated from Manhattan High School's Class of Aviation. His present duty is that of an aero mechanic. He is preparing himself at Wheeler Field's Randolph Field Preparatory School totaking the examination for appointment as an Air Corps Flying Cadet.

The history behind his name is that in Egyptian it means the God of Sun. Ra is of Italian descent.

In summing up, this is the long and short of the longest and shortest named men at Wheeler Field - Talandziaviczius and Ra. During an interview, Taland gestured: "If my name is changed, it will be less writing and much easier to sign the payroll."

Thus, the 19th Pursuit Squadron claims the record for having a man with the longest name and a man with the shortest name until a Private X comes along.

LANGLEY FIELD SERGEANT RECOMMENDED FOR AWARD OF SOLDIER'S MEDAL.

Sergeant Matthew L. Pelikan, of the 35th Pursuit Squadron (Fighter), has been recommended by Langley Air Base officers for the coveted Soldier's Medal for his rescue on December 27, 1939, of a woman from a burning house at McKeesport, Pa. At that time Sgt. Pelikan was an Army student at the Casey Jones School of Aeronautics at Newark, N.J., and was enjoying a Christmas holiday vacation at McKeesport, where he was visiting friends.

According to his own story, Sgt. Pelikan was driving down the Boulevard at McKeesport with a friend, when he passed a burning home. Immediately stopping his automobile, he dispatched a civilian standing nearby to turn in a fire alarm and proceeded to rescue two women from the burning building. Seeing that one of the women was about to jump from the second story, he dissuaded her from doing so, climbed the porch of the home and carried her down. After returning to the lawn he observed that another woman was lying moaning on the ground. Wrapping her in a blanket, he drove her in his car to the nearest hospital, first warning the persons in the home next door that the flames might spread to their residence.

For these acts of mercy, Sgt. Pelikan was recently commended by Major General James K. Parsons, Commander of the 3rd Corps Area, in which both McKeesport and Langley Field are located. General Parsons, in a letter to the Sergeant, stated that Pelikan's good judgment and energetic action reflected credit upon the military service and that Sergeant Pelikan was a praiseworthy member of the service.

For his actions on that memorable night in December, Sgt. Pelikan was also officially praised by Colonel Jacob W.S. Wuest, Commanding the Langley Field Air Base; Major Edward M. Morris, the Commanding Officer of the 8th Pursuit Group (F), and Captain Francis H. Griswold, his Squadron Commander. Major Morris has initiated official action to secure the Soldier's Medal for the Sergeant.

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The latest improvement in recreational facilities at Albrook Field, Panama Canal Zone, is the construction of a new tennis court for officers. Work has already been started on this court, which is adjacent to the one now in use. Increased sports activities among the officers on the Post, coupled with the increase in commissioned personnel, necessitated the construction of the new court.

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EXTENSION OF ACTIVE DUTY TOURS OF RESERVES

The active duty tours of the following-named Air Corps Reserve officers were extended to the dates indicated, viz:

To April 2, 1941

Barksdale Field, La.:

1st Lt. Luther Jahn Fairbanks, Burt, Iowa
2d Lt. Leonard James Barrow, New Iberia, La.
Bolling Field, D.C.: 1st Lt. George Oscar Bond, Hyannis, Mass., transferred from Panama Canal Department.

Fort Knox, Ky.:

2d Lt. William Allen Daniel, Birmingham, Ala.
Fort Sam Houston, Texas:

2d Lt. Andrew Dale Moore, Berwyn, Ill.

Hamilton Field, Calif.:

1st Lt. Frank Peter Bostrom, San Antonio, Tex.
1st Lt. Charles Lee Hamilton, Ashdown, Ark.
1st Lt. David B. Lancaster, Jr., St. Pauls, N.C.
1st Lt. Wm. Lewis, Jr., Glendale, Calif.

Second Lieutenants

George Addison Blakey, San Antonio, Texas.
Robert Edward Crough, Mt. Washington, Ky.
Paul Flint Davis, Griffin, Ga.
Theodore Frederick Holsteen, Burlington, Iowa
Oecil Scott McFarland, Norman, Okla.
Alvin John Henry Mueller, Jr., Seguin, Texas
Varden Mellier Munn, Monroe, La.
Herbert Otto Wangeman, Moorpark, Calif.
George Edward Glober, San Angelo, Texas
Donald McKay Keiser, McComb, Ohio
Elton Lewis McCune, Dallas, Texas
Jack Stagner, Dallas, Texas
John William Osborn, Lincoln, Nebr.
Duane Haren Skiles, Denton, Texas
Harold Caldwell Smelser, Nashville, Tenn.
John Alva Roberts, Beebe, Ark.
Walter William Sparks, Jr., Inverness, Miss.

Hawaiian Department:

2d Lieuts. Byron Eugene Hall, Campbell, Cal.
Thomas Harber Holbrook, Commerce, Ga.
Charles Martin Opell, Cleveland, Ohio
Harold Frederick Wilson, Los Angeles, Calif.

Kelly Field, Texas:

1st Lt. E.V. Robnett, Jr., San Antonio, Texas

Langley Field, Va.:

1st Lt. Thomas Bellamy Mixon, Hampton, Va.
2d Lt. Peter Casimir Sakowski, Herkimer, N.Y.

March Field, Calif.:

1st Lts. Allen L. Erickson, San Francisco, Cal.
Frank Bailey Stuart, San Antonio, Texas
2d Lt. Glen Robbins Birchard, Bay City, Mich.
2d Lt. Robert Gabel Emmens, Medford, Oregon

Maxwell Field, Ala.:

2d Lts. Robert H. Monroe, Los Angeles, Calif.
Robert L. Morrissey, Tecumseh, Nebr.
Carrell Thurman Murrell, Barrackville, W. Va.
Neil Arnold Newman, Lakewood, Ohio
Gerhard John Schriever, San Antonio, Texas
William Waller III, Chicago, Ill.

Mitchel Field, N.Y.:

2d Lts. Charles Wayne Maynard, Putnam, Conn.
Vernon Lester Phelps, Jennings, La.
Frederick Beil Philbrick, Brookline, Mass.
Paul John Yurkanis, South Boston, Mass.
John Max Knox, Nashville, Tenn.
Douglas Neil MacOdum, Cambridge, Mass.
Dwight Francis Lewis, Corning, Iowa
Raymond F. Toliver, Fort Collins, Colo.
Chester Charles Busch, Kenosha, Wisc.

Mitchel Field, N.Y. (Cont'd):

John Joseph Boerr, Poughkeepsie, N.Y.
Malcolm McMillan Heber, White Plains, N.Y.
Ernest Roderic Manierre, Hartford, Conn.
Charles Paul Sheffield, Mount Ida, Ark.
Richard Murray Bylander, Little Rock, Ark.
Bernard Willmore, Conde, S.D.
Moffett Field, Calif.:

2d Lt. Cecil Parker Lessig, Ellsworth, Kans.
Randolph Field, Texas:

2d Lt. Hugh O'Daniel, Louisville, Ky.
Sacramento, Calif., Air Depot:
2d Lts. James Edwin Scoggins, Lawrence, Kans.
Fred Morgan Adams, Burbank, Calif.
Wm. Frederick Stewart, Kansas City, Mo.
Selfridge Field, Mich.:

2d Lts. Franklin H. MacNaughton, Milliken, Mich.

James Richard Watt, Youngstown, Ohio
Harold Jennings Whiteman, Salem, W. Va.
Woodrow Burton Wilmet, Dunlap, Ill.
James Orrin Beckwith, Jr., Burlington, Vt.
Joseph F.B. Parker, Atlantic City, N.J.
Victor Frank Pixey, Hammond, Ind.
Thomas B. Summers, Weatherford, Okla.

To April 6, 1941

Hamilton Field, Calif.:

2d Lt. Philip T. Durfee, Burlingame, Calif.

To April 26, 1941

Fort Bragg, N.C.:

2d Lt. Herbert Chas. Chambers, Bradenton, Fla.

To April 28, 1941

Randolph Field, Texas:

2d Lt. Don D. Cascio, Staten Island, N.Y.

To May 25, 1941

Barksdale Field, La.:

2d Lt. Donald Leonard Clark, Alta, Iowa

Langley Field, Va.:

2d Lts. Paul D. Brown, West Orange, N.J.
Fred Wright McNelly, Anoka, Minn.
Harry MacCulloch Fike, Portage, Wis.
Rudolph Romulus Seymour, Cary, N.C.
Guy Franklin McCafferty, Tucson, Ariz.

Maxwell Field, Ala.:

2d Lt. Wyatt Patrick Exum, Goldsboro, N.C.

March Field, Calif.:

2d Lts. Francis B. Carlson, Ossining, N.Y.
Ray Lawrence Cox, Vernon, Texas
John Randolph Maney, So. Minneapolis, Minn.

Philippine Department:

2d Lts. Glen Miller Alder, Los Angeles, Calif.
Roland John Barnick, Max, N.D.
Ted Bernard Fisch, Milwaukie, Oregon
Perry LeRoy Franks, Lincoln, Nebr.
John Rinier Van de Lester, Hammond, Ind.
John Irvine DeVine, Jr., Atlantic City, N.J.

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The following-named Air Corps officers have been assigned to duty as students in the 1940-1941 course at the Army War College, Washington, D.C.:

Lieut. Colonels Asa N. Duncan and Ira C. Eker, from the Office of the Chief of the Air Corps, Washington, D.C.

Majors Dale V. Gaffney, from Hamilton Field, Calif., and Nathan F. Twining, Air Corps Technical Supervisor, San Antonio, Texas.

Major Angier H. Foster, Office Chief of the Air Corps, was assigned to March Field, Calif.

V-8435, A.C.

OBSERVANCE OF ARMY DAY AT AIR CORPS FIELDS

Glendale, Calif.

The Air Corps Training Detachment at Glendale, Calif., held its first open house for the public on Army Day, with flying cadets acting as guides through barracks, headquarters buildings, and other facilities.

Cal-Aero Corporation, contractor for flying cadet primary training, and the Curtiss-Wright Technical Institute, contractor for mechanics instruction, co-operated with the detachment by opening their school, shops and maintenance establishments to public inspection.

During the morning, while normal training flights were in progress with the detachment's 25 PT-13A airplanes, visitors were given an opportunity to see how primary training is carried out.

Selfridge Field, Mich.

"Spring and excellent flying weather was with us on Army Day," reported the News Letter Correspondent, and he added that along with it was the record breaking crowd of 35,000 people who came from all parts of the State of Michigan to witness the thrilling aerial demonstration. Among those present were business executives, immigration officers, Marines and a state senator. Approximately fifty civilian pilots flew in for the annual celebration, many of them coming from neighboring States. Their small Cub planes presented a glittering array of colors in sharp contrast to the larger Pursuit ships whose colors were more sleek and uniform. The ramp seemed literally stuffed with "flying machines" of various descriptions. "We were really a mighty proud group of militarists on Army Day," concludes the Correspondent.

Chanute Field, Rantoul, Ill.

The Air Corps Technical School, Chanute Field Branch, played host to the citizens of Illinois and Indiana on Army Day, April 6th.

A complete program was arranged for the day, and invitations were sent to the various newspapers and Chambers of Commerce in the surrounding territory. Considerable publicity was given the observance of the day and, favored with ideal weather, some 11,000 persons visited the field.

The display this year was particularly impressive, since it was the first opportunity afforded the Air Corps to demonstrate instruction and equipment in the new school buildings. Numerous comments were made on the new installations.

The program of the day is set forth

below, as follows:

A. Flying:

1. Drop Testing Parachutes: 10:00 a.m., 12:00, 1:00 and 3:00 p.m.
2. Formation Flying: 11:00 a.m. and 2:00 p.m.
3. Local flights for Reporters and Photographers: 9:00 a.m. and 2:00 p.m.

B. Exhibits:

1. Department of Mechanics-- Hangar One, new Post; Buildings: 5-6-7-8-57-59-60-62-95-96, old Post.
2. Department of Communications: Hangar Two, new Post; Buildings: 11-12-13-94-99, old Post.
3. Photographic Display in front of Post Operations.
4. Champaign Gas-Model Club Display in front of Post Operations.
5. General Mess, old Post. Open 9 to 11 a.m., and 1 to 4 p.m.

Although the display was listed from 8:00 a.m. to 4:00 p.m., many persons were to be seen in and around the airplane display as late as 5:00 p.m. The personnel at Chanute Field are grateful for the interest displayed by the visitors and the opportunity to acquaint the public with the inside of the Air Corps Technical School.

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FRANCE FIELD AIRMEN FLY TO LIMA, PERU

Three of the B-18 airplanes of the 3rd Bombardment Squadron, under the command of Major E.T. Rundquist, took off from France Field, Panama Canal Zone, for Lima, Peru, early Sunday morning, March 10th, on a good-will flight tour. It was the second trip into South America for several members of the crew, as they were on a trip to Chile immediately following the earthquake in that country in the latter part of January, 1939. Actually, only six enlisted men made the trip to Lima, but, says the News Letter Correspondent, it is reported that some fifty or sixty must have written letters to be mailed from Peru, telling about their exciting experiences over and in South America.

The Army airmen took off from Lima on the return flight on the morning of March 14th, and landed at Guayaquil, Ecuador, the same evening for an overnight stop. They resumed the flight on the morning of Friday, March 15th, and completed the 3,600-mile trip in the afternoon of that day.

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V-8435, A.C.

STATION ASSIGNMENTS OF NEWLY COMMISSIONED RESERVE OFFICERS

The following-named officers of the Air Reserve, who were commissioned second lieutenants upon their graduation from the Air Corps Advanced Flying School, Kelly Field, Texas, on March 23rd, last, are assigned to duty at the stations indicated, effective on or about May 1, 1940, viz:

To Mitchel Field, New York

Jack Nolen Adams	James Elmer Lazenby
Augustus Jared Allen	Eugene B. LeBailly
Franklin S. Allen, Jr.	Robert S. Lippincott
Thomas Watson Bafford	Ernest Nils Ljunggren
James Dudley Barlow	Robert H. McCutcheon
Hugh Palmer Bedient	Robert Merritt McLeod
Raynold Adolph Berg	Kenneth Elliot Marts
Eugene H. Berkenkamp	Reuben Weed Mayne
Arthur Louis Birleffi	Ralph L. Michaelis
George Herman Blase	Albert James Moye
Donald Keith Brandon	John Joseph Mullen
Loran Dale Briggs	Charles G.Y. Normand
Willis C. Bumgarner	Elwyn Farney Quinn
Howard Burhanna, Jr.	David Neville Reay
Alex Earl Burlleigh	Raymond E. Robinson
Walter Lloyd Callahan	Charlie Merrell Ross
Leroy Virgil Cascy	Richard R. Royall, Jr.
James F. Collins, Jr.	Vernon Andrew Rux
Robert Edward Coulter	Robert F. Schirmer
Jonathan E. Coxwell	Edward W. Scott, Jr.
Raymond Ernest Davis	John Milton Seelay
James Frederick Dow	Thomas M. Seymour
Leonard Ferrell Dow	John Ferrin Sharp
Lyman Harvey Eddy	Peter Skaliy
William Herbert Fandel	Robert Edward Smith
James Herbert Hail	William H. Smith
James Arthur Hogg	Berkeley I. Springfield
Lamson C. Horner, Jr.	Mac B. Stephenson
Ernest Benj. Hummel	Edward F. Stoddard
Richard B. Humphrey	Clyde Wm. Swanson
Louis K. Jacobs	Philip Avery Sykes
Leland Warren Johnson	Henry C. Thompson
William Eric Johnson, Jr.	James H. Thompson
Wilson Tolman Jones	John Hamlin Traylor
Robert Byron Keck	Earl Cash Trees
Jonathan Horace Knox	Thomas R. Waddleton
Paul Moffett Lambert	Carl Paul Walter
Charles Joseph Lamothe	Kenneth T. Wilhite
Cameron Wilbur Lane	Frank Conder Ziglar

To Aberdeen Proving Ground, Md.

Robinson Billings Arthur Clarke Perry

To Bolling Field, Anacostia, D.C.

Robert Bolles Rubbell

To Brooks Field, San Antonio, Texas.

Hal Browne, Jr. Frank P. Thornquest
Harry W. Johnston, Jr. Harry Newton Tower

To Fort Lewis, Wash.

Charles Wm. Johnstone Frank Leslie Nims
Hall Frank Smith

To Pope Field, Fort Bragg, N.C.

James Thomas McKee

To Scott Field, Belleville, Ill.

Frederick T. Amutta Robert Marion Prange
Edward Oscar Meadows

To Duncan Field, San Antonio, Texas

James Gipson Badgett David Earl Pace
David Arthur Burchinal Jack Stuart Robbins
Charles Woodrow Himes

To Maxwell Field, Ala.

Ernest F. Baldwin	George Leslie King
Thomas Woodrow Bonner	Thomas K. McGehee
Robert Hartwell Bowling	Robert B. Satterwhite
Grover Cleveland Brown	Ray Edgar Soper
Lyman Henry Goff, Jr.	John Braxton Wallace
Elmer Mervin Gould	Donald McLarty Wright
Wm. Lester Hamrick	

To Olmsted Field, Middletown, Pa.

Harry F. Damon, Jr.	Robert Joseph Gibbons
Donald George Dekin	Robert Gordon Johns
Horace E. Dimond	Ivan Ray Stracener

To Patterson field, Fairfield, Ohio

George Ross Herrman	Harry James Sands, Jr.
Anderson Garth House	Robert Wayne Springer

To Selfridge Field, Mt. Clemens, Mich.

Delwin Barton Avery	William Stephen Johnson
Faul Sarachon Bechtel	Gerald Martin Keenan
John J.B. Calderbank	Ralph Eugene Keyes
Harry E. Caldwell, Jr.	Robert Eberle Kirtley
George Cantello	Louis Richard Kittel
Edwin F. Carey, Jr.	Robert Tashian Lamson
Francis T.J. Carlson	Wm. Lawrence Leverette
William H. Carter	Gerald McCallum
Russel M. Church, Jr.	Raymond L. MacInnis
James Lawrence Cole	Grant Mahony
Walter W. Colpitts II	Albert Earle Matlack, Jr.
Wm. Robert Compton	George Wm. Prentice
Walter Leroy Coss	James Clarke Selman
Morris C. Crossen	Wm. Alan Sheppard
Duane Miles Cutting	Mitchell Escoe Sims
George Charles Deaton	Raymond Anderson Sloan
Wm. Gordon Eyres	Stephen Milton Smith
Stephen John Fuller	Allison Wayne Strauss
Raymond Miller Gehrig	John A. Thompson
Russell Wm. Getchel	Harrison Reed Thyng
Robert Taylor Hanson	Elmer Harry Willis
Robert Peter Hedman	Ernest Claypool Young
Norman Maurice Jacob	William Elmer Zins

To Randolph Field, Texas

Alan Frederick Adams	Joseph Hyde Heath
George Mason Adkins	Charles F. Jenkins, Jr.
Sobey Franklin Allen	Carl Lloyd Liles
Henry John Amen	Charles W. Mills, Jr.
George Evans Brown	John Paul Mizicko
Harry LeRoy Brown	Jack Arista Nendell
Robert Thomas Calhoun	Thomas Fleet Osborne
John Powers Crocker	Andrew Elmer Slough
Howard Ross Gwynn	John Russell Tower

To Hawaiian Department

Kenneth Bushnell	Wallace Packard Mace
Richard T. Carlisle	Howard Oliver Moores, Jr.
Robert Brown Coen	Francis Morgan Potts
Floyd Durant Colley	Owen McNeill Seaman
Joseph A.L. Greco	Richard DeWitt Stepp
Richard B. Harbeson	Fred Carl Stoffel
David W. Hassemer	Robert B. Sullivan
James Edward Joham	Jay Paul Thomas
Glen Howard Kramer	John James Thornhill
James Colson Latham	Warren S. Wilkinson
Walter Yeates Lucas	Carl Eugene Wuerthele

Colonel Michael F. Davis, student at the Army Industrial College, Washington, D.C., has been assigned to duty at Hamilton Field, Calif.

RETIREMENT OF A PIONEER PARACHUTE JUMPER

Master Sergeant Ralph W. Bottriell, world-famous Air Corps parachute pioneer, retired March 31st at Kelly Field, Texas, pursuant to orders from The Adjutant General. The veteran parachute expert and daredevil jumper terminated his 30 years of service with the Air Corps after more than 500 daring parachute leaps.

Sergeant Bottriell is undoubtedly the "dean" of all parachute jumpers, besides being the leading parachute technician in the Air Corps. He made most of his leaps at a time when flying itself was considered extremely hazardous but parachute jumping downright dangerous. On entering the service, Sergeant Bottriell undertook the daring mission of reestablishing confidence in parachutes and of proving to the world, especially aviators, that parachutes could be relied upon. He repeatedly jeopardized his life to this end.

Sergeant Bottriell made his first jump from a hot-air balloon when only 16 years of age, on the fourth of July, 1902, before a carnival in Nashville, Mich. This was when the Wright Brothers' airplane was still only a dream. The Sergeant, then only a boy, ascended with his chute attached below his balloon. Once in the air, he had no other means to return safely to terra firma except to cut himself loose when he had gained the desired altitude. Thus, when he joined the Service some seven years later, he was already a famous parachute jumper, having more than a hundred leaps to his credit.

His most outstanding jump was on May 19, 1919, at McCook Field, Ohio, when he was the first Army man to jump with the manually operated free type parachute which he himself developed. This was the first chute that could be opened after the jumper had cleared the plane, and was the direct forerunner of the modern parachute used in the Air Corps today.

Sergeant Bottriell realized the hazards of the old attached-type parachute, which was fastened to the plane and opened when the jumper left the ship. It was quite possible for the shrouds to become entangled in the tail section of the plane. In 1919, after years of work, a free-type parachute was completed and was ready for the big test. For this jump and the many others that he made perfecting this parachute, he was awarded the Distinguished Flying Cross on July 1, 1933, with the following citation:

For heroism while participating in aerial flights. On May 19, 1919, at

McCook Field, Dayton, Ohio, Sergeant Bottriell made the first jump to be performed by Army personnel with a manually operated, free type parachute. At this time, parachute jumping of any kind was extremely hazardous. In spite of this, Sergeant Bottriell repeatedly jeopardized his life while making parachute test jumps from airplanes flying at various altitudes to perfect this parachute. By his untiring effort, fearlessness, and disregard of personal danger, Sergeant Bottriell aided materially in proving the free-type parachute not only possible but practical for airplane use."

In recommending Master Sergeant Bottriell for the award of the Distinguished Flying Cross, Brigadier General Henry C. Pratt, then Chief of the Air Corps Materiel Division, stated that "for the valuable scientific data which this noncommissioned officer aided in securing for the Air Corps, for his bravery, skill and splendid spirit shown in volunteering for such work, it is felt he exemplified the finest Army traditions and is deserving of the highest praise. The success of the Army parachute and the number of lives it has saved is the most potent proof of the value of his work," and, further, "Sergeant Bottriell's service.... has been honorable and he has ever through his efficiency, loyalty, skill, and manly conduct been a credit to the Air Corps of the Army. Such work as his raises the standard of work and morale throughout the service and is comparable to the finest acts of bravery during time of war."

Sergeant Bottriell's most spectacular jump was in 1920, when he was attempting to establish a record for a high altitude descent. After climbing to 20,000 feet, which was the maximum ceiling of his plane, he was preparing to jump when his chute opened prematurely and dragged him through the tail section into space. He was rendered unconscious by the blow, and his left arm was nearly torn off. A panel in his parachute was badly torn, but the chute lowered him to earth slowly enough so that luckily he regained consciousness in ample time to open his second safety chute. The total descent required 22 minutes, during which time he very nearly bled to death from his wounds. With the elevators, rudder, vertical and horizontal stabilizers of his plane practically demolished, and with no parachute, since Sergeant Bottriell was wearing the only two chutes available at that time, the

pilot of the damaged plane was in almost a more serious plight than the Sergeant. Fortunately, the pilot managed to land his plane safely and was uninjured.

This nearly fatal accident did not restrain Sergeant Bottriell in the least, as might be expected. As soon as he was on his feet, he made a long tour throughout the United States, demonstrating by actual jumps the new free-type parachute. Thus, in 1926, when he made his last jump at Brooks Field, San Antonio, Texas, he had accomplished his mission. He had developed a safe parachute and by complete disregard for his own safety had built up complete confidence throughout the world in the life-saving silk. Without this confidence, the parachute would be valueless, for no pilot would dare to rely on it.

Sergeant Bottriell joined the Army in 1909, enlisting in the Cavalry. In 1917 he joined the Air Service at Kelly Field, Texas. He has served at Brooks Field, Texas; McCook Field, Ohio; and in the Philippines, but Kelly Field claims Sergeant Bottriell as its own. He began his air service at Kelly Field, made his first jump from an airplane at this field, and has been in charge of the parachute department of the Air Corps Advanced Flying School at Kelly Field since its organization. He has personally instructed thousands of graduates of the Air Corps Flying School in the use of the parachute. Three-quarters of his 30 years' service has been in San Antonio. There is hardly a town in all of eastern Texas that has not watched Kelly Field's Sergeant Bottriell come down out of the heavens to land in the middle of the local fair grounds.

Sergeant Bottriell's contribution toward safeguarding flying is a most outstanding one. Aviation owes this brave and fearless noncommissioned officer a debt of gratitude, the measure of which is illimitable.

Sergeant Bottriell's home was formerly in Grand Rapids, Mich. He will make his future residence in Los Angeles, Calif., where his parents now reside.

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The 7th Reconnaissance Squadron, France Field, Canal Zone, was well represented on the recent flight to Lima, Peru, mentioned elsewhere in this issue. The Squadron furnished 3 planes of the 12-plane formation, and officers of the Squadron piloted them, those making the trip being Capt. Guy F. Hix, 1st Lts. Henry K. Mooney, Donald N. Wackwitz, 2nd Lts. J.D. Moorman, J.D. Berry and W.E. Boyd (Air Res.).

All members of the flight reported a very fine trip and a most delightful time as guests of the Peruvian Government.

GRADUATION OF CLASS 40-A FROM ADVANCED FLYING SCHOOL.

Supplementing the information given in the previous issue of the Air Corps News Letter regarding Class 40-A, the first one to graduate from the Advanced Flying School under the Expansion Program, the Kelly Field Correspondent, commenting on the inability of Major General Henry H. Arnold, Chief of the Air Corps, to attend the graduation exercises as he had originally planned, states that the entire flying school regretted exceedingly his absence, since all personnel had keenly anticipated his visit.

The graduation went off exactly as scheduled. Major General Herbert J. Brees, 8th Corps Area Commander, and Brigadier General Barton K. Yount, Assistant to the Chief of the Air Corps, were especially pleased with the aerial review, which was the largest at any Kelly Field graduation exercises. The review itself was outstanding in that the 120 BC-1's and the 3 B-18's cleared Kelly Field in exactly 3½ minutes, passing in review after a 25-minute flight within three seconds of "H" hour. The spacings and intervals before the reviewing stand were far better than would normally be expected of a graduating class. As the tail of the reviewing column cleared the reviewing stand, the leading elements were over the hangar line coming in for a landing. The timing on this maneuver was excellent. As a finale, the entire 123 planes landed within 5½ minutes. This in itself displayed perfect air discipline and training.

General Brees and General Yount, as well as the other officers in the reviewing stand, considered the entire review an achievement of which Kelly Field may well boast, especially considering that the students were not trained in mass formation, and that roughly 80% of the men flying the ships have had no tactical training.

With General Brees and General Yount, Colonels Robins and Lohman, were the nine civil contractors of the elementary flying schools at which, under the Air Corps Expansion Program, primary flying training is now given under Army supervision, to-wit: Messrs. Walter P. Thorpe, Hal S. Darr, W.F. Long, C.C. Moseley, E.J. Sias, Oliver L. Parks, T. Claud Ryan, Allan Hancock and W.G. Skelly, and the nine Air Corps Supervisors at these schools, namely, Capts. E.F. Yost, E.M. Day, R.T. Wright, R.B. Davenport, J.C. Horton, E.H. Alexander, C.A. Harrington, 1st Lieuts. James W. Gurr and A.J. McVea, all of whom were

(Continued on Page 17)

ALBROOK FIELD HOST TO PERUVIAN GOOD-WILL FLIGHT.

Albrook Field, Panama Canal Zone, was host recently to eight Peruvian fliers who landed there at 11:20 a.m., March 28th, on the third leg of an extensive flight through South and Central America.

A reception committee of Canal Zone military officials, headed by Major General Daniel Van Voorhis, Commanding General of the Panama Canal Department, was on hand to greet the fliers, who were escorted into the field by a flight of six P-36's from the 16th Pursuit Group, under the command of Capt. Roger J. Browne.

The Peruvian fliers circled the field once in precise formation and then landed individually.

First to greet them on their arrival were Major General Van Voorhis; the Panamanian Secretary of Foreign Relations, Narciso Garay; the United States Ambassador, William Dawson; and the Peruvian Charge D'Affaires, Jose V. Larraburre. Also on the field to greet the visitors were Brigadier General Herbert A. Dargue, commanding the 19th Wing, and an old friend of Commandante Armando Revoredo, Peruvian aviation hero and commander of the flight; Colonel Jacob L. Devers, Department Chief of Staff; A.H. Gilkeson, commanding Albbrook Field Air Base; Lieut. Col. F.M. Brady, Wing Executive; and Major Carl Rohsenberger, Aide to General Van Voorhis.

A party of Panamanian officials also greeted the Peruvian airmen.

Those in the flight, in addition to the commander, were Captain Jorge Vigil Morey; Lieuts. M. Gambata, Pedro Vargas Prada, Luis Cossio T., Jesus Melgar E., Ernesto Gomez Cornejo V., and Sub-Officer Frederico Vera.

The officers are flying two-seater Douglas Attack planes powered with 9-cylinder Wrights. These planes have a high speed of 400 kilometers per hour and a cruising speed of 320 kilometers per hour.

The entire flight will cover 17,790 kilometers, of which 2,055 kilometers have been completed. Thus far stops have been made at Quito, Ecuador, where a fifth plane in the flight was damaged in a landing accident, and at Bogota, Colombia.

Numerous social functions were given in honor of the visitors. These included a party at the quarters of General and Mrs. Van Voorhis, one at the Albbrook Field Officers' Club, and a dinner given by Lieut. Colonel and Mrs. James F. Doherty, of Albbrook Field.

The Peruvians also called on Presi-

dent Augusto Boyd, of the Republic of Panama, and Secretary Garay.

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Graduation of Class 40-A (From Page 16)

especially proud to have given this graduating class its start.

Following General Yount's address (published in the previous issue of the News Letter) Colonel A.W. Robins, Commanding Officer of the Air Corps Training Center, presented the diplomas to the graduating class. During the course of this ceremony, General Brees interrupted Colonel Robins in order to be able personally to congratulate Flying Cadet Thomas Renan Waddleton, who hails from General Brees' home town, Laramie, Wyo. General Brees personally presented Flying Cadet Waddleton his diploma. War-rant Officer Ezra Frederick Nendell, of Randolph Field, was also permitted to present the diploma to his graduating son, Jack Nendell.

Colonel Eugene A. Lohman presented the "Wings" and completed the ceremonies with a wish for "Many Happy Landings" to each of the graduates.

The graduating class, numbering 224, completed three months of intensive training in modern Basic Combat training at the Air Corps Advanced Flying School. Formation flying, cross-country flying, instrument flying and night flying constituted most of the flying course. The class was prepared for this flying at Randolph Field, Texas. Each man arrived at Randolph Field after having successfully passed the three months' primary course at one of the nine civilian elementary flying schools now under Army supervision. The course of nine months' training includes 225 hours of flying and approximately 400 hours of ground training in the subjects of navigation, meteorology, airplane structure and design, airplane engines, radio, and allied tactical and military subjects.

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GENERAL DARGUE FLIES TO WASHINGTON

Brig. General Herbert A. Dargue, Commanding the 19th Wing, left Albbrook Field on March 29th for Washington, D.C., to confer with officials relative to Air Corps activities in the Panama Canal Zone.

He was accompanied by Lieut. Col. W.S. Graveley, Wing Operations Officer; 1st Lieut. F. Gge, of France Field, who made the trip as navigator; Tech. Sgt. Thomas, engineer; Staff Sgt. Frum, radio operator.

The return trip to Albbrook Field was scheduled to be made in about two weeks.

NIGHT PHOTOGRAPHS TAKEN AT MAXWELL FIELD

Night aerial photographic history was recorded on Monday, March 25th, at about 7:30 p.m., when Major George W. Goddard, Air Corps, Maxwell Field, took four pictures of the Air Corps Tactical School from an altitude of about one mile. The four bomb explosions and flashes which occurred at intervals of about five minutes each were incidental to the taking of the "shots." They were about as loud as the explosion from a 75 millimeter artillery gun. Maxwell Field officials said the bomb bursts were caused by powerful flash-light bombs released from the airplane to provide the necessary light for the taking of the pictures. The light was white and was visible but for a moment.

To insure that no hysteria would occur as the result of the explosions, Maxwell Field authorities had notified local radio stations to make an announcement regarding the mission. The State Highway Department and Montgomery police were also advised in advance.

The photographs were taken from a B-18A airplane piloted by Major Phillips Melville, with Captain Walter L. Wheeler as co-pilot. First Lieut. James H.C. Houston, Commanding Officer, Flight C, 1st Photographic Squadron, assisted Major Goddard. Staff Sergeants Raymond A. Starr, Ralph S. Davis and Corporal James L. Pearce, of the Tactical School Photographic Department, were the other members on the flight.

Major Goddard commenced his experiments on night photography in 1926 at Wright Field, Dayton, Ohio. Initial tests of it were made about a year later. He conducted several years of research on his development and had several narrow escapes. He recalled one in particular, when there was a premature explosion of the bomb immediately under the airplane while it was in flight. Fortunately, the pilot was able to land the plane without injury to personnel or equipment.

Major Goddard, who recently graduated from the three months' course at the Air Corps Tactical School, is stationed at Wright Field, Ohio. He stated he is now engaged in the development of color photography, the development of photographs during flight, and long range photographs.

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ACKNOWLEDGMENT

The cover page featuring this issue of the News Letter was drawn by Staff Sergeant Frank J. Lorenz, of Langley Field, Va., a frequent contributor in the past. We again express our thanks.

NEW CLASS STARTS AT TACTICAL SCHOOL

The fourth in the series of 90-day courses at the Air Corps Tactical School, Maxwell Field, Ala., got under way on Monday morning, April 8th, with 99 officers in attendance. The opening ceremonies were inauspicious.

Following brief addresses by Colonels Walter R. Weaver, Commandant, and Millard F. Harmon, Jr., Assistant Commandant, the Directors of the various departments discussed the functions thereof, namely: Colonel Leo A. Walton, Command, Staff and Logistics; Lieut. Colonel Sidney Erickson, Ground Tactics; and Major Muir S. Fairchild, Air Tactics and Strategy. Maps, texts and other school materials were then issued the students and study of the first subject commenced. It was Ground Tactics, with Major Alden H. Waitt, Chemical Warfare Service, instructor. Incidentally, this is the last course in which Major Waitt will be on the faculty at the Air Corps Tactical School, as he is to be transferred to the Army War College, Washington, D.C. He will be succeeded by Lieut. Colonel Adrian St. John, Chemical Warfare Service. Colonel St. John is attending the current course as a student.

Nine Maxwell Field officers are enrolled in the class, namely, Majors Luther S. Smith, George A. Whatley, Captains Dudley D. Hale, Winslow C. Morse, Hoyt L. Prindle, Leland S. Strathan, Samuel W. Van Meter, Charles A. Bassett and Lilburn D. Fator.

Officers attending from other garrisons and their permanent stations follow:

Chanute Field, Rantoul, Ill.: Captains Thomas L. Bryan, Jr., Merlin I. Carter, John J. Morrow, Joel G. O'Neal, 1st Lieuts. Arnold T. Johnson, Joseph A. Miller, Carl Swyter and James McK. Thompson.

Lowry Field, Denver, Colo.: Major James W. Hammond, Captains Leon R. Brownfield, John C. Covington and Robert K. Taylor.

Scott Field, Belleville, Ill.: Lieut. Colonel Frank H. Pritchard, Major Rufus B. Davidson and Captain Narcisse L. Cote.

Langley Field, Hampton, Va.: Lieut. Colonel Carl F. Greene, Majors Earle J. Carpenter, Henry W. Woodward, Captains Alvord Van P. Anderson, Jr., Howard Moore and Thomas L. Mosley.

Kelly Field, Texas: Captains Harvey F. Dyer, James A. Ellison, Edgar R. Todd and John F. Wadman.

Randolph Field, Texas: Captains Sam W. Sam W. Cheyney, Reginald Heber, Trenholm J. Meyer, George P. Moody, Herbert M. Newstrom, Thomas S. Power, Norman B.

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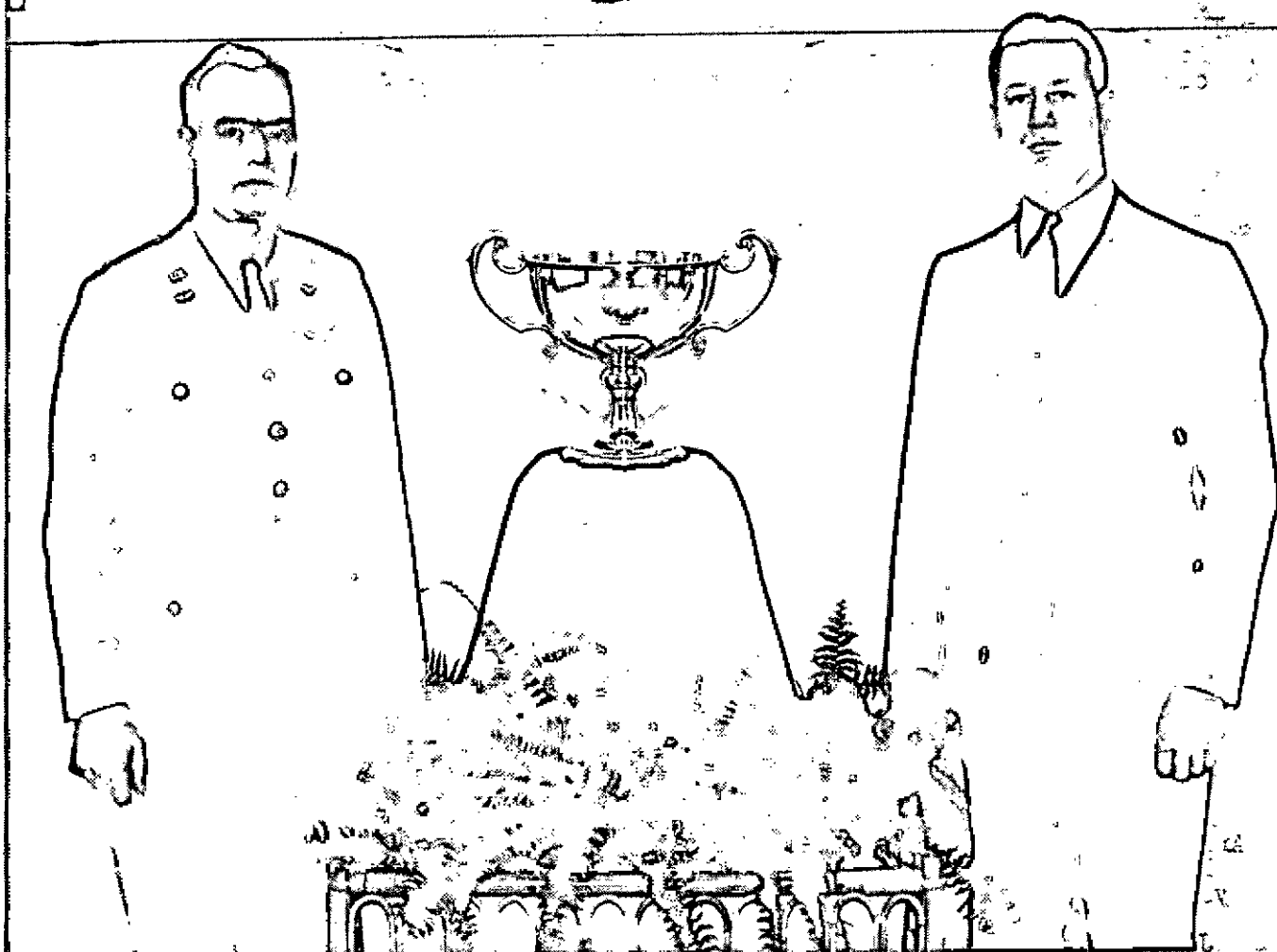
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Olson and 1st Lieut. Harry N. Renshaw.
Wright Field, Dayton, Ohio: Captains
Daniel C. Doubleday, John K. Gerhart,
Pearl H. Robey,
Turner A. Sims, Jr., Charles B. Stone,
III, Roger V. Williams, 1st Lieuts. Ed-
ward M. Gavin, Donald L. Hardy, Morris
J. Lee, Howard M. McCoy, Edwin S. Perrin
and Ralph P. Swofford.

March Field, Riverside, Calif.: Major
Hilbert M. Wittkop, Captains Harold H.
Bassett, Charles G. Goodrich and Robert
F. Tate.

Moffett Field, Calif.: Lieut. Colonel
Earle G. Harper and Captain Homer L.
Senders.

Barksdale Field, Shreveport, La.: Col.
Junius H. Houghton and Captain William
C. Mills.

Mitchel Field, L.I., New York: Major
Homer E. Chandler and 1st Lieut. Mil-
lard Lewis.

Selfridge Field, Mt. Clemens, Mich.:
Major Harold R. Wells and 1st Lieut.
Edwin G. Simensen.

Washington, D.C. (Office of the Chief
of the Air Corps): Majors Edward H.
White and John G. Moore, Captain Thurs-
ton H. Baxter and 1st Lieut. Earle W.
Hockenberry.

Bolling Field, D.C.: Majors Leslie P.
Holcomb, Edward E. Hildreth, Captains
R. Loyal Easton, John G. Fowler and
Harold W. Grant.

- Also -

Lieutenant Colonels

Alonzo M. Drake, Dayton, Ohio.
Ira R. Koenig, Fort Sill, Okla.
Adrian St. John (Chemical Warfare
Service, Edgewood Arsenal, Md.)

Majors

Harold H. Carr, Sacramento Air Depot,
Calif.

George C. Cressey, Middletown Air
Depot, Middletown, Pa.

Pardoe Martin, Municipal Airport,
Long Beach, Calif.

Captains

Walter R. Agee, Hamilton Field, Calif.
Edward W. Anderson, Boston, Mass.
Robert B. Davenport, East St. Louis,
Ill.

Walter W. Gross, Lindbergh Field, San
Diego, Calif.

William B. Offutt, Glendale, Calif.
Llewellyn O. Ryan, Chicago, Ill.
Robert W. Stewart, Patterson Field,
Fairfield, Ohio.

Lloyd H. Tull, Brooks Field, Texas.
Daniel B. White, Santa Monica, Calif.
Roy T. Wright, Lincoln, Nebr.
Emmett F. Yost, Dallas, Texas.
Ralph B. Strader, C.W.S., Edgewood
Arsenal, Md.

Edward L. Strohbehn, Field Art., Fort
Myer, Va.

First Lieutenants

John J. Hutchinson, Fort Leavenworth,

Kansas.

Minthorne W. Reed, Newark, N.J.
Gerald E. Williams, Mineola, L.I.,
New York.

Major Edward E. Hildreth, one of the
students, served at Maxwell Field from
1935 to 1939 as Commanding Officer of
Headquarters and Headquarters Squadron,
and his many Montgomery friends will wel-
come his three-month return.

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BOLLING FIELD PRESENTED SKEET TROPHY

By Captain Harold W. Grant

Under the portrait of the late Major
General Oscar Westover, former Chief of
the Air Corps, which hangs in the Offi-
cers' Club at Bolling Field, D.C., there
will be permanently installed a beauti-
ful loving cup as a skeet shooting tro-
phy. This cup was presented to Captain
Harold W. Grant, Secretary of the Offi-
cers' Club, by Mr. Waddell Smith, Spe-
cial Air Corps Representative for the
Travelers Insurance Company.

The cup will be mounted on a suitable
base, on which will be inscribed the
names of the top notch shots of the
Club. Any club member becomes eligible
for this honor when he breaks fifty
straight targets.

A great deal of interest has been
shown in skeet shooting at Bolling
Field, and the members of the Club have
always looked forward to Waddell's
visits, especially when he brings his
unusual collection of very fine scatter
guns. In this collection is an English
10 bore, double barrel muzzle loading
shot gun. On several occasions, with
the accoutrements that go with it, name-
ly, shot pouch, powder flask, wads and
caps, he has managed to break twenty-
three out of twenty-five targets.

The cup and its requirements are espe-
cially significant, since Waddell made
his first fifty straight on the Bolling
Field Skeet Range. In presenting the
trophy, the donor stated that he hopes
as the years go by he will see the
names of many of his friends added to
the list of top flight followers of a
sport of which he himself is so fond.

The photograph on the opposite page
shows the trophy as well as the donor
and the recipient thereof.

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The first of the new AT-6 advanced
trainers has arrived at the Advanced
Flying School, Kelly Field, Texas, and
was turned over to the 63rd School
Squadrons. The mechanics note that the
starters and generators can be changed
without the need for extra joints in
the arms and fingers. This airplane
seems to have been designed with fine
possibilities for quick maintenance.

SPECIAL ORDERS OF THE WAR DEPARTMENT
Changes of Station

Beau, Lucas V., Jr., Major, from March Field, Calif., to Office Chief of Air Corps, Washington, D.C.

Benn, Wm. G., 2d Lieut., from Mitchel Field, N.Y., to Bolling Field, D.C.

Boles, Theodore M., Capt., from Hamilton Field, Calif., to McChord Field, Wash.

Briggs, James E., Capt., from Selfridge Field, Mich., to West Point, N.Y.

Estes, Howell M., 1st Lt., from Kelly Field to Randolph Field, Texas.

Foster, Thad V., Major, from Hamilton Field, Calif., to McChord Field, Wash.

Haugen, Victor R., 1st Lieut., to Materiel Division, Wright Field, O., upon completion of present course of instruction at Daniel Guggenheim School of Aeronautics, N.Y. City.

Hoag, Earl S., Lieut. Col., from duty in Office Chief of the Air Corps to duty as a member of the War Department General Staff, Washington, D.C., effective July 9, 1940.

Hockenberry, Earle W., 1st Lieut., from Langley Field, Va., to Office Chief of the Air Corps, Washington, D.C.

Jones, William W., 1st Lt., to Mitchel Field, N.Y., upon completion tour of duty in the Panama Canal Department.

Legg, Richard A., 1st Lieut., from Chanute Field, Ill., to Bolling Field, D.C.

Kissner, August W., Captain, from Kelly Field, Texas, to Office Chief of the Air Corps, Washington, D.C.

Lindsay, Richard C., Captain, from 97th Observation Squadron, Mitchel Field, N.Y., to Maxwell Field, Ala., for duty with Staff and Faculty, Air Corps Tactical School.

Lynd, William E., Lieut. Colonel, from Hawaiian Dept., to Washington, D.C., for duty as instructor at the Army War College.

Taylor, Yantis H., Major, from duty as Instructor, Air Corps, Missouri National Guard, St. Louis, Mo., to Washington, D.C., for duty as student, 1940-41 course, at Army War College.

Turnbull, William, Major, from Kelly Field to Duncan Field, Texas, for duty at San Antonio Air Depot.

Wash, Carlyle H., Colonel, from March Field, Calif., to McChord Field, Wash., to assume command.

Webster, Benjamin Jr., 1st Lieut., from Kelly Field, Texas, to West Point, N.Y.

Wilson, Russell A., Captain, from March Field, Calif., to Maxwell Field, Ala., for duty on Staff and Faculty of Air Corps Tactical School.

Zimmerman, Don Z., Captain, from Randolph Field, Texas, to West Point, N.Y.

Lieut. Colonel Omer O. Niergarth, Office of the Chief of the Air Corps, Washington, D.C., has been assigned to duty at Santiago, Chile, as Chief of the U.S. Military Mission to Chile. Captain Robert W. Burns and 1st Lieut. Joe W. Kelly, of Randolph Field, Texas, were assigned to Santiago, Chile, for duty as members of the above Mission.

Major Alonzo M. Drake has been assigned to

duty as Assistant District Supervisor, Central Air Corps Procurement District, Dayton, Ohio, from duty as Procurement Planning Representative for the Air Corps at Detroit, Mich.

ENGINE CHANGE UNDER HEAT OF THE HAWAIIAN SUN

The forced landing of a P-26B airplane of the 6th Pursuit Squadron at Mokuleia Landing Field, in the vicinity of Kaena Point, recently, brought forth bustling activity for the mechanics of the Aero Repair of Base Headquarters and 18th Air Base Squadron, Wheeler Field, T.H. Staff Sgt. Waid, the shop foreman, and Pvt. 1st Cl. Theroux responded immediately to the call.

A thorough examination of the airplane disclosed a rear main gear drive bearing had broken, allowing the impellers to come in contact with the blower section. A field engine change, which usually requires one day with all necessary equipment, was the only solution. The crew arose bright and early the next day, drew an engine from the Air Corps Supply, and completed the job at Mokuleia in the record time of eight hours with makeshift equipment and under adverse weather conditions rarely found in these Islands.

Lieut. Holloway, Assistant Base Engineering Officer, made the test flight and brought the lonely bird safely back to its home roost. The complexion of the crew was tinted to reddish cast from the absence of shelter from the withering Hawaiian sun.

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HEROES OF THE AIR

By Private Ransome W. Doney, Air Corps
18th Air Base Sqdn., Wheeler Field, T.H.

Poets sing of sailor men,
And heroes of the deep.
Beyond horizon distant,
In watery graves they sleep.

From railroads laureled history,
Comes romance of the rails.
And names of men who served to gain,
Renown from wondrous tales.

We now give rise to one that's new,
Saluting trumpets blare.
As they pass in great review,
Our heroes of the air.

A song for them is well deserved,
As homes in death they share.
To bring about a greater day,
Our heroes of the air.

In Flanders Fields the cannon roar,
Again the war drums snare.
While high above, the soaring Larks,
Greet heroes of the air.

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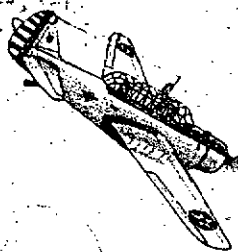
Lieut. Col. W.B. Wright, formerly Executive Officer, 3rd Wing, assumed command of the 27th Bomb Group, Berksdale Field, La., April 1, 1940, replacing Col. C.L. Tinker, who was transferred to MacDill Field, Tampa, Fla.

V-8435, A.C.

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U.S. ARMY AIR CORPS

NEWS LETTER



*The Aerial Camera -
The Eye of the Corps!*

VOL. XXIII

MAY 1, 1940

NO. 9

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The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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CASUALTY EVACUATION BY AIRPLANE

The January, 1940, number of "Der Deutsche Militar Arzt," the German Military Surgeon, contains three articles based on German experience in the evacuation of casualties by airplane ambulance from Poland to hospitals in Germany.

The most pertinent feature of these valuable articles on this important subject have been abstracted with a view to bringing the recent German experiences and observation to the attention of Air Corps and the Medical Corps officers generally.

The first article is by Lieut. General Erich Hippke, the Surgeon General of the German Air Force, an energetic and highly competent officer.

General Hippke discusses in some detail the extent and several aspects of airplane evacuation of the sick and wounded from the front to army hospitals throughout Germany. A total of 2500 cases were thus evacuated which, it may be noted, is at the rate of 30,000 cases per year.

He emphasizes the point that no fancy specially constructed ambulance planes are necessary. Only general purpose (commercial passenger) planes are needed. The Red Cross, the other painting and the installations for carrying litters are soon made.

No rules can be adopted which have universal application. Each campaign or war has its special features. In the Polish campaign it was the unexampled speed of the German advance which resulted in the encirclement of numerous individual Polish combat units, large and small, and the great amount of city fighting which resulted in a high percentage of close range wounds.

In the case of the seriously wounded it is of decisive importance that the patient reach the operating surgeon promptly. If this is in a theater of operations hospital, so much the better; otherwise, such cases belong in a hospital in the home territory. And it is here that the decisive importance of transportation comes to the front.

To anyone who has observed the wounded carried in a ground ambulance and

those transported by plane, it is clear that air transportation is far less injurious to the patient than ground evacuation, regardless of the time consumed in the movement. When to this is added the actual speed and short duration of evacuation by air, the advantage of this form of transportation becomes even more apparent. When it is further considered that every air ambulance has an experienced medical officer, the invariable presence of oxygen and the opportunity to observe and care for each patient without interruption, the advantages of air evacuation over ambulance transportation is obvious.

Conditions which are non-transportable by air. These include, first of all, shock. For severe shock the veto is absolute. The newly operated on are in general excluded from air transportation. The transportation of pneumonia cases must be critically weighed, as must severe cases of anemia from hemorrhage, although in this latter category transfusion is to be considered.

In connection with the foregoing classes of patients, two conditions incident to airplane evacuation have a bearing, viz: air-sickness, results of decreased air density and third, altitude sickness.

All in all not a great deal of importance is to be ascribed to air sickness. It can be controlled to a certain extent by flying at levels with but little air disturbance; skillful flying and landing often avoid it altogether; but the greatest preventive is the recumbent position in which all serious cases travel any way. Obviously the retching and vomiting of air sickness may be harmful to certain classes of cases.

The decrease in air density begins its effects even at 1000 meters. The author had previously called attention to the dangers of different kinds of prolapses as a result of this decrease in external pressure. In practice, however, no prolapses have occurred. Bandages and dressings have sufficed to prevent it. Disturbances in the peripheral circulation were also thought of as possibilities, but actually no bad

symptoms from such cause occurred. However, the flights from Poland were not above 1000 meters; and the few cases that came over the Alps from Spain were too few on which to base any final judgment.

Altitude sickness is a manifestation of oxygen deficiency and is immediately relieved by the administration of oxygen. Critical manifestations of altitude sickness occur at 7000 meters, but disturbances are observed at 4000 meters and even lower. In all of the higher altitude flights oxygen is administered. In crossing the Alps in the evacuations from Spain, of which there were only a comparatively small number, the maximum altitude varied from 5000 to 5500 meters. Oxygen administered to patients was routine at 3500 meters, and on occasion was given at lower altitudes. From Poland many cases of gunshot wounds of the lungs were evacuated by ambulance plane. Some of these died after reaching the zone of the interior hospital. Oxygen deficiency certainly played a role in these cases, and this class of cases require careful selection for evacuation and professional care. In this connection, intrathoracic bleeding, and still more important, secondary reflex disturbances of the heart are significant. A final opinion on the transportability by air of thoracic injuries cannot yet be rendered. Experience in this field is yet too limited.

To the general rules on the non-transportability of certain cases by air, there is one exception and that on grounds of humanity. If the battle surges back over the dressing station or if a combat unit is encircled and there is no early prospect of breaking through the ring, then air transportation is the lesser evil for all cases. Everything, even causes just operated upon, is transportable; the wounded must not be abandoned to an uncertain fate.

Otherwise, ambulance planes should be utilized for the important cases, above all, brain and face wounds, eye injuries and shattering wounds of the spinal column, pelvis and extremities which require special apparatus, attention of specialists and long hospitalization. Such cases should not first be operated on and made non-transportable, but simply prepared for immediate air evacuation. Severe cases of dysentery and typhoid should be evacuated to home hospitals by air.

Author warns expressly against lay evacuation by air. Commanding officers of combat units sometimes try to be helpful and send their wounded with-

out medical supervision in any available plane to any landing field in the rear. Ambulance plane evacuation must be under medical control. The important thing is close coordination of all medical stations and establishments of the Army and the Air Corps, and when indicated, with the Navy. The radio communications service of the air arm is here of the first importance. Without this service air evacuation is impossible.

Motor ambulance service is necessary at the front and at the landing fields in the home territory. At both the loading and unloading points medical personnel must be at hand. Let no one believe that the connection between the front and the homeland hospital is easy to arrange. At the front roads are so blocked and ambulances may make as slow little as one kilometer per hour.

To bridge these gaps, the author suggests small low speed landing planes of the Fiesler-Storch type - a shuttle plane service. This plane is independent of the roads and is able to land close to every dressing station. Such a shuttle plane service is now being developed.

The medical value of the ambulance plane operating in the opposite direction has proved to be great in the Polish war. Medicines, inoculating sera, medical and surgical equipment, changes of clothing, special dressing materials and special diet for dysentery patients in field hospitals, were all brought to the front by ambulance planes.

Author concludes that it is not important how many wounded were evacuated by plane as compared with land transport and sea transport; but rather to recognize that with the appearance of the ambulance plane a new method of evacuation has arrived, which has characteristics and qualities not possessed by the other and older methods of evacuating sick and wounded, and that this new means of transportation is important.

Airplane Evacuation - Article II by Major W. Tonnies, Consulting Surgeon, Office of The Surgeon General, Air Forces (A few notes from this article).

In the Air Ambulance Service, too, the safety of the patient is the first commandment.

Author reviews briefly airplane transportation of sick and wounded from the strictly medical or professional point of view, as previously discussed at international conferences. Up to the outbreak of the Polish war, the medical problems of air transportation of wounded had been for the German profession

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largely a matter of theory, as they had had little experience with the actual transportation of the injured by air.

Then came the Polish campaign. On the basis of their own investigations in the field of aeronautical medicine two unfavorable possibilities were given special consideration.

First, the effects of lowered air pressure.

Second, anemia from previous blood losses.

The first was considered especially with reference to open brain wounds and to abdominal wounds in which considerable extension from the gas formation had occurred. As disturbances in these conditions do not occur until an altitude of 3000 to 4000 meters has been reached, they did not come practically into consideration.

The second consideration is one of great practical interest in the evacuation of wounded by airplane. All seriously wounded have suffered more or less severe hemorrhages. On the second and third days hemoglobin may range between 35 and 53%. Lung wounds with Haemothorax, and belly wounds with high diaphragm from meteorism have restricted breathing capacity. In all of these cases altitudes of more than 1300 meters must be avoided.

The correctness of these considerations was proved in the air evacuation of 2500 sick and wounded from Poland to Germany. The only threatening disturbances observed were those phenomena associated with altitude sickness.

A total of four patients died either in the airplane or immediately after landing. One was a case of gunshot wound of the lumbar vertebrae with retroperitoneal hemorrhage; two with lung wounds and hemotherax likewise died, and the fourth from a severe peritonitis.

None of these four cases was carried in an equipped ambulance plane (medical airplane, the Germans call them), but in ordinary transport planes without medical attendants. The great majority of all cases were transported in equipped and medically staffed ambulance planes. There were no deaths in these planes, and no subsequent deaths which were attributable to the airplane journey.

Under what most difficult circumstances high class surgery was required, in a most rapidly advancing war of movement such as that in the East, can actually be judged only by those doctors who experienced it there on the spot.

The recent advances in surgery along with a deepening of our biological knowledge, had been carried out in our clinics and hospitals. The diagnostic and therapeutic equipment and installa-

tions of these establishments form an essential part of this progress. The motorization of ground transport means has not been able to keep pace with this progress for the purposes of war surgery, although in position warfare with good roads and speeded up evacuation to nearby general hospitals, this disadvantage can be substantially lessened.

The disadvantages of war surgery, as noted above, can now be made up again through air evacuation - as the employment of ambulance air squadrons in Poland has proved.

What effective support ambulance airplanes can now render is illustrated (by the author) by several examples, viz: a belly wound with small intestine prolapse, incurred near Warsaw, arrived on the operating table of the surgical clinic of the University of Breslau 2½ hours after the wound was received. Author adds that this is certainly a record to which the patient owed his uneventful recovery.

Good results in eye injuries are greatly increased through prompt air evacuation and operation in modernly equipped eye clinics.

Brain and jaw injuries for whose proper treatment neither the requisite installations, equipment and personnel can be expected to be available at the front, are particularly beneficiaries of airplane evacuation, as are lung wounds, severe joint fractures and gunshot fractures. Of 375 cases of joint fractures, only two died after their airplane evacuation to special hospitals in Germany. These figures are to be compared with World War results.

The ambulance plane by its rapid bridging of great distances has united the highly developed surgical clinics of the homeland with the first and final care of the wounded.

(To be continued in next issue).

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A Sperry Automatic Pilot which, it is stated, "flies a table instead of an airplane," was ingeniously installed at the Curtiss-Wright Technical Institute for study by members of the Air Corps Training Detachment under instruction there as aviation mechanics.

The Automatic Pilot is mounted on a movable table top. When, for instance, one corner of the table (representing an airplane wing) is depressed, the Automatic Pilot promptly brings it back to normal "flying" position. If the table is thrown completely out of balance, the pilot, operating exactly as on an airplane, levels it up again. Advanced students will use the device to learn the operation, maintenance and repair of airplanes thus equipped.

TWO LANDINGS MINUS LANDING GEAR

Two successful "Belly Landings" in damaged ships were made at Moffett Field, Calif., on April 17th, after a collision of two P-36A planes over the field during simulated combat practice.

Lieuts. Loring F. Stetson and Frank L. Dunn, both of the 21st Pursuit Squadron, were piloting the ships and engaging in a "dog-fight" a short distance from the field. As the ships flew toward each other, one of the pilots was apparently blinded by the sun. They banked away to miss each other, but the wing tip of one struck the bottom of the other plane. The wing tip and a portion of the aileron on one plane were torn away, while the other was damaged at the point where the landing gear is concealed, rendering the wheels inoperative.

Lieut. Dunn brought down his plane without the benefit of the landing gear and reported the accident and the plight of Lieut. Stetson, who was still in the air. After making several stalls to test the reaction of his damaged plane, Lieut. Stetson finally glided into the field for another "Belly Landing." Officers estimated that his landing speed was approximately 130 miles per hour. Neither of the pilots was injured in the landing, although both planes will require a major overhaul, and they will be sent to the Sacramento Air Depot for repairs.

Lieuts. Dunn and Stetson received commendation for the way they handled their planes and for choosing to bring them in rather than to "bail out" with the resultant complete destruction of both planes. The accident helped Lieut. Dunn celebrate his receiving his commission in the Regular Army, which came only two days before the accident.

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NEW BT-14's BEING FERRIED TO RANDOLPH

According to the News Letter Correspondent, more than one hundred of the new 450 h.p. BT-14 Basic Training airplanes will be stationed at Randolph Field, Texas, within a very short time, with more to come. For the past month, ferry pilots have been departing daily for the North American factory at Inglewood, Calif., to fly the new training planes to the Texas airdrome.

With classes of approximately 250 Flying Cadets and student officers reporting to the "West Point of the Air" every six weeks for their basic phase of flight instruction, the BT-9's were being flown as much as 125 hours per month to keep pace with the training directive. Night maintenance was necessary for a time but, with the coming of

the new trainers, this procedure will be curtailed, if not cancelled.

Instructors and student pilots alike are enthusiastic over the "1940 model." The additional 50 h.p. in the new engines is "just what the doctor ordered," one veteran instructor stated. Most noticeable difference to outward appearances, as compared to the earlier model, the BT-9, is the absence of the eye-brow slots, the squared off wing tips, and a slightly deeper cockpit. Rudder design has been changed slightly to permit better control at near-stalling speeds and in recovery from spins.

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PARACHUTE "GADGET" ATTRACTS ATTENTION

Fastened to the ceiling in both parachute departments at Randolph Field, Texas, a complete parachute harness, used to demonstrate just how it feels to be suspended in mid-air, is attracting much attention among both officers and Flying Cadets.

One class of cadets already received instruction on the apparatus when first reporting, and plans are under way to include a session in the harness for each of the incoming classes of student pilots.

Essentially, the idea is to illustrate to all concerned just how a parachute harness should actually fit, not on the ground or in the cockpit of a plane, but when the aerial life raft is called into use in an emergency. A second advantage of the instruction harness is to demonstrate how it is possible to sit in the seat rather than to remain suspended by the leg straps after a forced parachute jump.

Of little use in Texas, but something to be remembered for possible future use, is the demonstration of how to leave the chute and harness when making a descent into water.

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FLYING CADET BOARDS MAKE GOOD PROGRESS

Reports received at Barksdale Field, La., by newspaper clippings, indicate that the Flying Cadet Boards now touring the various Corps Areas are enjoying success at every stop. The News Letter Correspondent states that these reports are especially gratifying to the Barksdale Field Public Relations Office, which puts forth every effort to cooperate with the Boards in securing publicity in newspapers along their route.

At Jonesboro, Ark., 15 young men applied for Flying Cadet training. The 8th Corps Area Board reports that a total of 50 young men successfully passed the examination for flying training.

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FLYING CADETS ARE SUPERMEN??

(A non-professional explanation of the physical examination for Flying Cadet applicants).

"Flying Cadets of the United States Air Corps are Supermen? Not by a long shot! Physical requirements for potential military pilots are so rigid that only highly trained athletes are able to pass the exams? Again, you're all wrong."

"Actually, Flying Cadets of Randolph Field, 'The West Point of the Air,' are normal college men, with normal eyes, normal heart, normal reactions, normal muscular balance. In fact, the entire physical examination as devised by the School of Aviation Medicine and laid down in Army Regulations is based on just one word, normal."

"Certain rare individuals are able to read letters only 10 millimeters high from a distance of 20 feet. Flying Cadet applicants are required to read letters double that size, 20 millimeters tall, from the 20-foot distance. Twenty millimeters is slightly more than three-fourths of an inch. Try it yourself! 'Just normal visual acuity,' the flight surgeons declare."

"Another test of the eyes is depth perception, ability to judge comparative distances of objects. Two black rods are mounted on a sliding base. Strings are attached to these rods so that the pilot-to-be can move them from a distance. The idea is to adjust the rods so that they will be more or less equi-distant from your eyes. An error of 30 millimeters is allowed by the Air Corps. 'Just normal,' medicos say, for some persons can adjust the sticks with an error as small as five millimeters."

"Still another eye test...color blindness. If the applicant has trouble in distinguishing the 'stop' light from the 'go' light, he will probably have difficulty in passing this phase. Otherwise, his chances are good."

"Perimetric field of vision," is another eye test. Test yourself by holding your head steady while a friend moves a pencil about two feet from your left ear. Have him gradually jiggle it forward, upward, downward."

"Can you see it in these various positions? If you can, your field of vision is in all probability sufficiently broad."

"My heart's OK," all applicants boastfully declare when that portion of the exam starts. Perhaps it is and perhaps it isn't. Blood pressure reclining, pulse rate reclining, both are checked against the same readings taken while standing up and, also, after exercise. A numerical value is

given each reading, all combining to give a final result. An 18 is perfect, the medicos say, but potential pilots need only a plus 8. "Just normal," they again reiterate."

Flying Cadet applicants are spun round and round in a Barany chair to test the reactions of the middle ear, where the sense of balance is located. A check on his blood pressure is made meanwhile. Occasionally, a candidate has difficulty with this phase, but not often."

"Can you make your hands and feet behave? Well, let's see. Get into the chair of the Automatic Serial Reaction Machine. Facing the applicant are three double rows of light. One row is red, the other green. Also in front of the Cadet-to-be is a control stick and rudder pedals, similar to the controls of a plane. Instead of controlling a plane they control the lights. The entire machine is automatic from this point on. Three red lights flash on, and you move the controls until the green lights are lighted directly opposite the red ones. When correct the time to perform this task is registered. Another set of red lights flashes on, and then another and another until the applicant has solved 40 settings. This determines his reaction time."

"That's about all to the examination except the psychological test which consists merely of a chat with a Flight Surgeon. He probes your mind, seeking for any phobias that may exist, even without your knowledge."

"Football stars pass the test with flying colors....but so do the 'skinny runs,' and in just as large a percentage. A 'good little man' and a 'good big man' are all equal when it comes to flying an airplane and, for that matter, they are all equal when it comes to passing the physical exam also. 'All that we require is normal men, normal in every respect,' is the Flight Surgeon's closing statement."

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Thirty-two Air Corps enlisted men comprising the final group of the first draft of 272 selected men sent to Curtiss-Wright Technical Institute, Glendale, Calif., for instruction as aviation mechanics, graduated and returned to their home fields on April 24th."

The second group of 136 men sent to this school is now well into its 6-months' course of instruction as part of the Air Corps Training Det., which also includes Flying Cadets at the Cal-Aero School."

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IS CALIFORNIA AIR-MINDED?

With a total of 73 native sons, California's representation in the March, 1940, primary flying class of 375 Flying Cadets, this query may be emphatically answered in the affirmative. These 375 Flying Cadets are distributed among the nine civilian elementary flying schools selected by the War Department under the Air Corps Expansion Program. Their training was started on March 27th, last.

When California entered 70 students in the December, 1939, primary flying class, it was thought that this record would stand for some time to come, since that number constituted 18% of the entire student body. In the March class, however, California boosted its previous high percentage mark by two points.

The State of Texas, which has always been in the thickest of the fight for the highest representation of native sons in classes at the Army Air Corps Training Center, is runner-up this time with 30 students, followed by New York with 26; Illinois, 20; Utah, 15; Missouri, 12; Minnesota, Ohio and Washington, 11 each; Florida, Iowa and Oklahoma, 9 each; Georgia, North Carolina, Pennsylvania, South Carolina and Wisconsin, 8 each; Kansas, Massachusetts and South Dakota, 6 each; Alabama, Arkansas, Colorado, Connecticut, Michigan, Mississippi, Montana and North Dakota, 5 each. None of the other States is represented by more than four students each.

Among the various cities represented by students in the new class, Los Angeles is credited with the unprecedented total of 31, or one more than the entire representation of Texas, runner-up among the States. Chicago is next in line with 7 students, followed by Brooklyn, N.Y., New York City, Salt Lake City and Minneapolis, with 5 each; Austin, Texas, Beverly Hills, Glendale and Santa Monica, Calif., 4 each; San Antonio, Texas, Columbus, Ohio, St. Louis, Mo., and Seattle, Wash., 3 each. None of the other cities represented in the class is credited with more than two students each.

Another outstanding feature of the March class is the unprecedented representation of 65 enlisted men of the Army in the student body. This number constitutes an all-time record in the history of the Air Corps Training Center. What is still more noteworthy in connection with this large representation of enlisted men is the fact that 46 did not possess the required two years of college credits so as to exempt them from the mental examination,

and they received their Flying Cadet appointments by virtue of their passing the difficult written examination which covers two years of credits at a recognized college or university.

Of these 65 enlisted men, 17 came from Chanute Field, Ill.; 5 each from Langley Field, Va., and Mitchel Field, N.Y.; 4 each from Maxwell Field, Ala.; Kelly and Randolph Fields, Texas, and Barksdale Field, La., and 3 each from Hamilton and Moffett Fields, Calif., and Lowry Field, Denver, Colo. None of the other Air Corps stations was represented by more than two students in the March class.

The 375 students were divided among the nine civilian elementary flying schools, as follows:

Alabama Institute of Aeronautics	24	35
Chicago School of Aeronautics	23	23
Dallas Aviation School and Aerial College	1	56
Cal-Aero Training Corporation	23	33
Lincoln Airplane and Flying School	24	24
Parks Air College	1	39
Ryan School of Aeronautics	1	35
Allan Hancock College of Aeronautics	1	48
Spartan School of Aeronautics	1	82
Total	109	375

The names and residents of these students are listed on pages 10 to 13, inclusive, of this issue of the News Letter.

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GENERAL DARGUE VISITS WRIGHT FIELD

Brigadier General Herbert A. Dargue, Air Corps, was a visitor at Wright Field on Monday April 8th. He was en route from Washington to the Panama Canal Zone, where he is the Commanding General of the 19th Wing. Stationed at McCook Field as a student in the Air Corps Engineering School, and a graduate of the Class of 1920, General Dargue has long been familiar with Materiel Division aims and traditions.

General Dargue spoke most interestingly of the tremendous activity now engrossing the Canal Zone.

On his lapel General Dargue wore the small ribbon of the Distinguished Flying Cross, awarded for his leadership of the Pan American "Good Will Flight" in 1927. General Dargue is a flight pioneer, having first taken his training in 1912, when he was stationed in the Philippines. An aviation school was at that time conducted at Fort William McKinley, with Lieut. (now Colonel) Frank P. Lehm, 7th Cavalry, as instructor. General Dargue made his training flights in an old hydroplane, which he kept in repair. He received his flying rating in July, 1913.

BACK TO 1912 A. D.
By the Materiel Division Correspondent

The following imposing list of characteristics, considered essential for military aircraft in the dear dead days of 1912, was taken from the files of the Field Service Section at Wright Field. They are published for the purpose of whetting the delightful sense of superiority which we moderns are apt to experience over accomplishments to which we may have contributed nothing whatsoever. Merely to have been born in this age and time of 400 m.p.h. cruising speeds, 3,000-mile ranges, 15-ton weight carrying aircraft, we accept as a strange vicarious flattery.

In 1912, the military airplane was three years old. The Wrights had first succeeded in lifting themselves aloft in a powered craft nine years previously. In spite of a tremendous amount of effort on the part of others, no preceding human being had ever accomplished this feat.

And so, although in the light of corresponding present aircraft requirements, those below may smack of quaintness, they have their own dignity and the flavor of great accomplishment. It will be noted there are no demands for cockpit seats accommodating parachutes. Today we learn by flying; they had to accomplish most of their learning by falling.

The list mentioned in our first sentence follows:

Requirements for Weight Carrying Military Airplane

February 8, 1912

1. It must carry two persons with the seats so arranged as to permit of the largest possible field of observation for both.

2. The control must be capable of use by either operator from either seat.

3. The machine must be able to ascend at a minimum rate of 2,000 feet in ten minutes while carrying a weight of 450 pounds and the amount of fuel stated in paragraph 4.

4. The fuel supply must be sufficient for at least four hours of continuous flight.

5. It must be easily transportable by road, rail, etc., and easily and rapidly assembled and adjusted.

6. The starting and landing devices must be part of the machine itself and must be able to start without outside assistance.

7. The engine must be capable of throttling to run at reduced speed.

8. The engine will be subject to an en-

durance test in the air of two (2) hours continuous flight.

9. The aeroplane must develop a speed in the air of at least forty-five miles an hour.

10. The machine must be capable of landing on and arising from plowed fields.

11. The supporting surfaces must be of sufficient area to insure a safe gliding angle in case the engine stops. This will be determined by a test during calm atmospheric conditions; at an altitude of 1,000 feet the engine will be entirely cut off and a glide made to the ground. The horizontal distance between position of cut-off and landing must be at least 6,000 feet, or at other altitude of the same ratio.

NOTE: In case the weight carrying capacity is increased to 600 pounds, the minimum speed may be reduced to thirty-eight miles per hour, and the climbing power diminished to 1600 feet in ten minutes.

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ELEMENTARY SCHOOL AT MAXWELL FIELD

Maxwell Field's "little red school house" which has been designated the Post Elementary School and which came into being on November 5, 1939, is located near the entrance to the Air Corps Tactical School on Washington Ferry Road. The building and grounds are the property of the City of Montgomery but have been loaned to Maxwell Field authorities. The transaction has proved to be advantageous to all parties concerned, as it has relieved congestion in the city schools, and the building loaned to Maxwell Field is readily accessible for the airdrome's children.

As now constituted, the school consists of a kindergarten and the first four grades. Fifty-four children are in attendance. Mrs. Elleen Davis teaches kindergarten and first grade pupils; Mrs. Edna Giganti, grades one and two, and Mrs. Kathryn Thweatt, grades three and four. The youngsters are transported to the school by bus and returned to their homes by the same means. School hours are from 8:00 a.m. until noon. Recess is from 10:15 until 10:45 a.m.

Through the generous cooperation of Dr. Clarence Dannelly, Superintendent of the Montgomery County Schools, the Elementary School Supervisor of Montgomery County, Mrs. J.T. Bristow, conducts frequent inspections of the Post School to insure that the instruction conforms to the prescribed standards. Mrs. Davis, Mrs. Giganti and Mrs.

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Thweatt also attend the regular scheduled teachers' meetings held twice monthly under the supervision of Dr. Dannelly.

First Lieut. Louis A. Guenther, Air Corps, Maxwell Field Recreation Officer, supervises the conduct of the school. The school also has a ways and means committee, consisting of Mrs. Augustine F. Shea, Mrs. Winslow C. Morse, Mrs. Dudley D. Hale and Mrs. Elza L. Higbie.

The interior of the building has been completely renovated and its grounds graded and improved. Grass, plants and shrubbery were sown on the school's "Arbor Day," March 5th, under the supervision of Private Clyde Johnston, Maxwell Field landscape gardener. The plants and shrubbery were contributed by the flying field's personnel and Mrs. Ellen Jenkins, of Montgomery. Among the plants donated by Mrs. Jenkins were four large and 50 small althea plants. To quicken the interest of the children in gardening, each class has been charged with the responsibility of caring for one of the large plants and each child has been assigned a plant to be watered and otherwise cared for.

A playground is also in process of construction on the school's expansive grounds. A doll house and sand box have already been built, and see-saws, swings, sliding board, basketball back stop and a volleyball court are to be added. The entire area is enclosed by a newly erected white painted wooden fence.

The children in attendance are from the families of officers, enlisted men, civilian employees and Federal Prison Camp guards stationed at Maxwell Field.

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STRATOSPHERE TYPE AIRLINER INSPECTED

Pan American's new clipper, "The Flying Cloud," first supercharged-cabin plane destined for service on a United States airline, arrived at Bolling Field, D.C., on April 1st, where it was brought for inspection by officials of the Civil Aeronautics Authority and the Army and Navy.

The 33-passenger Boeing is to be put in service on an East Coast-South American route to Rio de Janeiro. The plane is designed for operation at an altitude of four to five miles, while superchargers maintain normal atmospheric pressure inside its eight-inch thick fuselage. The airliner, fully loaded, also includes a ton of cargo, and has a normal cruising speed of 247 miles per hour.

The "Flying Cloud," the world's first stratosphere type airliner, arrived at Bolling Field from Brownsville, Texas,

with one intermediate stop, and was piloted by Captain F.I. Jacobs, Chief Pilot of the Western Division of the Pan-American Airways.

Of particular interest is the passenger list for a demonstration flight conducted shortly after noon of Friday, April 5th. The list included the following names familiar in current national and aviation history, viz:

General George C. Marshall, Chief of Staff, and Mrs. Marshall;

Major General Henry H. Arnold, Chief of the Air Corps;

Rear Admiral John Towers, Chief of Bureau of Aeronautics, U.S. Navy;

Mr. John C. Cooper, Vice President of Pan-American Airways;

Dr. Ernest Gruening, Governor of Alaska;

Senator and Mrs. Claude Pepper;

Senator and Mrs. Key Pittman;

Mrs. Josiah Bailey, wife of Senator Bailey;

Hon. R. Walton Moore, Counsel for the Department of State, and his sister,

Miss Margaret Moore;

Mr. Grant Mason, Ambassador to Mexico;

Hon. Edward J. Noble, Under-Secretary of Commerce;

Mr. Charles P. Graddeck, Superintendent of Air Mail;

Congressman and Mrs. Clarence F. Lea;

Mr. Charles Guthrie, Assistant Under-Secretary of Commerce;

Lieut. Colonel Edmund W. Hill, Commanding Officer of Bolling Field;

Major William M. Lanagan, Engineering Officer of Bolling Field;

Mr. Clinton M. Hester, Administrator, Civil Aeronautics Authority, and Mrs. Hester;

Hon. Edward Warner and Mrs. Warner, Civil Aeronautics Authority;

Mr. C.B. Allen, Air Safety Board;

Mrs. Hardin, wife of Mr. Thomas Hardin, Air Safety Board;

Mr. Harllee Branch, Civil Aeronautics Authority.

—oOo—

The April 8th Class of the Air Corps Tactical School, Maxwell Field, Ala., claims fourteen of the Materiel Division engineering officers for its three-months' course. In return, the Tactical School is sending back to Wright Field fourteen officers, also of engineering caliber, who entered this School on January 1st of this year.

Those of the new class who reported from Wright Field are Lt. Col. A.M. Drake, Capts. D.C. Doubleday, J.K. Gerhart, P.H. Robey, T.A. Sims, C.B. Stone, R.V. Williams, Lieuts. E.M. Gavin, D.L. Hardy, M.J. Lee, H.M. McCoy, E.S. Perrin and R.P. Swofford.

—oOo—

V-8449, A.C.

DEATH OF FIRST RECIPIENT OF CHENEY AWARD

The death on Saturday, April 20th, at Fitzsimons General Hospital, Denver, Colo., of Master Sergeant Harry A. Chapman, Army Air Corps, marked the passing of the first recipient of the Cheney Award, which is given annually to Air Corps officers, Regular and Reserve, and Air Corps enlisted men, for the most outstanding act of valor, self-sacrifice or extreme fortitude in a humanitarian interest in connection with flying.

When the Cheney Award was established in 1927, Master Sergeant Chapman was the first to receive it in recognition of his conspicuous bravery in the Airship ROMA disaster, which occurred in February, 1922. Immediately following the crash of the ill-fated airship, Sergeant Chapman found himself entrapped in a canvas enclosed compartment. Escape through the usual exits was cut off by the flames. While the fire was raging, he cut an opening in the canvas with his knife, thus making an exit through which it was possible for him to escape immediately with little or no injury to himself. Instead of doing so, however, this gallant soldier helped four of his companions to take advantage of this exit before he himself left the fiery ruins. As a result of this act of self-sacrifice he was so severely burned before he could make his escape that for several days his life was despaired of. He was confined in the Walter Reed General Hospital for approximately one year.

Sergeant Chapman was born in St. Joseph, Mo., June 29, 1896, and enlisted in the Army at St. Joseph, Mo., in October, 1916. He served overseas during the World War with the lighter-than-air branch of the Army Air Service and, following his return to this country for duty at Langley Field, Va., he was a member of the detachment sent to Italy for the purpose of studying the operation of the Airship ROMA. He assisted in the dismantling of this airship for shipment to the United States, and upon its arrival at Langley Field he also assisted in its reassembly, and was detailed as a member of its crew.

Sergeant Chapman served at Langley Field until 1934, and then was ordered to duty in the Hawaiian Department, where he served for four years. He was later transferred to Randolph Field, Texas, and just recently to Lowry Field, Denver, Colo.

The deceased Air Corps noncommissioned officer is survived by his widow, Madge Locke Chapman, to whom the deep sympathy of the Air Corps is extended.

SON OF PRESIDENT OF CHINA A STUDENT AT AIR CORPS TACTICAL SCHOOL.

Lieut. Chiang Wego, Infantry, second son of Generalissimo Chiang Kai-Shek, President of China, arrived April 9th at Maxwell Field, Montgomery, Ala., from Washington, D.C., where he had been visiting at the Chinese Embassy. The trip from Washington was made by automobile. He had been authorized to attend the three months' course at the Air Corps Tactical School, and is now pursuing the study of aerial combat tactics. He stated he considered himself most fortunate in being permitted enrollment and that he hoped to be able to profit by the instruction.

He was addressed as Lieut. Chiang by one of the school authorities, whereupon the latter was most courteously informed that in China the surname is used first - hence it is Lieut. Chiang Wego.

This is the Chinese officer's second visit to Maxwell Field, he having spent a week there in December, 1939.

Lieut. Wego is 25 years of age, but looks much younger. He is 5 feet, 6½ inches tall, and weighs 130 pounds. He presents a striking figure in his Chinese uniform. The tunic is olive drab in color and is patterned along the lines of the U.S. Army officer's uniform, with the exception of the collar, which is of Prussian type. Lieut. Wego stated that Chinese officers also wear the Sam Browne belt and a short carved sword in a scabbard on all informal occasions. The sword is about the size of a bayonet and adds to the smartness of the ensemble. He also said that for parades, ceremonies and other formal assemblies, sabers are worn. The insignia of his arm and grade are worn on the collar. Red is the color denoting the Infantry in the Chinese Army. The cap is of olive drab, with two small brass buttons on its peak. Chinese officers wear black high top shoes.

Lieut. Wego, a bachelor, is a graduate of Soochow University, Soochow, China. He speaks English and German fluently. He has spent three years in Germany, the first four months of his visit there being devoted to acquiring sufficient knowledge of the German language so that he could assimilate the instruction of the German Army. While there, he was assigned to a mountain regiment, to the general headquarters in Bavaria, and the German War School at Munich. His detail at the latter school was for one year.

Assigned quarters in the newly constructed barracks which front Maxwell Field's Austin Hall, his room is quite

(Continued on Page 13)

THE MARCH, 1940, CLASS AT CIVILIAN ELEMENTARY FLYING SCHOOLS

Alabama Institute of Aeronautics, Inc., Tuscaloosa, Ala.

Murphree, C.E.	Gadsden, Ala.
Guthrie, G.M., Jr.	Inverness, Ala.
Pruitt, H.A.	Tuscaloosa, Ala.
Chapman, J.W.	New Haven, Conn.
Sconiers, Ewart T.	DeFuniak Springs, Fla.
Griffiths, W. H.	Pensacola, Fla.
Liebhart, J.C.	Miami, Fla.
Harrington, L.M.	Winter Park, Fla.
Shiver, D.S.	Sale City, Ga.
Irvin, B.S.	Washington, Ga.
Frank, W.T.	Jacksonville, Ill.
Shields, J.R.	Greenville, Miss.
Baskin, G.	Brooklyn, N.Y.
Marantz, M.	Brooklyn, N.Y.
Kelly, E.T.	Dansville, N.Y.
Robb, E.W.	Jamaica, L.I., N.Y.
Godfrey, J.E., Jr.	Ithaca, N.Y.
Moore, N.F.	Bethel, N.C.
Edney, James S.	Chapel Hill, N.C.
Stall, J.E.	Concord, N.C.
Sutton, T.H.	Monroe, N.C.
Icard, C.A.	Hickory, N.C.
Colling, T.	Cincinnati, Ohio
Boykin, Sam	Boykin, S.C.
Patterson, A.K.	Charleston, S.C.
Lightsey, R.L., Jr.	Fairfax, S.C.
Lynch, H.F., Jr.	Greenville, S.C.
Thomas, A.C.	Hampton, S.C.
Hiott, Erskine D.	St. Matthews, S.C.
Snipes, G.L.	Seneca, S.C.
Mears, J.F., Jr.	Varnville, S.C.
LaRoche, J.J.	Austin, Texas
Jemmott, H.K.B.	Newport News, Va.

Chicago School of Aeronautics, Glenview, Ill.

Maull, Harold V.	Greenville, Del.
Karsokas, Benj. A.	Methuen, Mass.
Milks, Warren N.	Midland, Mich.
Barrerre, Robert A.	Woodridge, N.J.
Femenella, John C.	Great Kills, N.Y.
Gardyan, Edward J.	Mineola, N.Y.
Noonan, Charles P.	New Rochelle, N.Y.
Avian, H.M.	New York, N.Y.
Crispino, Myron J.V.	Painted Post, N.Y.
Herrmann, Samuel	Stapleton, S.I., N.Y.
Bowe, Hugh H., Jr.	Dayton, Ohio
Bernstein, Melvin R.	Altoona, Pa.
Licht, Herman W.	Jennerstown, Pa.
Gaygan, Jack A.	Philadelphia, Pa.

Dallas Aviation School and Air College, Dallas, Texas

Dempsey, V.V.	Washington, D.C.
Bozeman, W.H.	Winter Haven, Fla.
Howe, E.W.	Gainesville, Fla.
Norton, M.E.	Hartwell, Ga.
Mackay, J.E., Jr.	Normal, Ill.
Butler, R.L.	Webster City, Iowa
Williams, C.E.	Atchison, Kans.
Touchy, S.H.	Lake Charles, La.
Huff, W.J.	Shubuta, Miss.
Carter, P.D., Jr.	Van Fleet, Miss.
Farr, G.C., Jr.	Raleigh, N.C.

Hoke, R.T.	Stillwater, Okla.
DeWeese, T.	Cleveland, Tenn.
Horowitz, J.M.	Sweetwater, Tenn.
Merritt, K.T.	Arlington, Texas
Davis, E.C.	Austin, Texas
Moore, H.E.	Austin, Texas
Franks, B.C., Jr.	Brady, Texas
Gilcrease, J.R.	Austin, Texas
Parrett, C.M.	Austin, Texas
Gibson, N.W.	Cleburne, Texas
Haley, Albert L.	Dallas, Texas
Williams, C.L., Jr.	El Paso, Texas
Parks, J.R.	Hillsboro, Texas
Sullivan, E.N.	Houston, Texas
Andrews, C.O.	Joy, Texas
Countz, C.W.	Los Fresnos, Texas
Spivey, Paulett	Atlanta, Texas
Zucht, J.B.	San Antonio, Texas
Webb, R.A., Jr.	Pampa, Texas
Turner, O.	Whon, Texas
Curtis, W.R.	Dansville, Va.

Cal-Aero Training Corporation, Glendale, Calif.

Dennis, L.D.	Beverly Hills, Calif.
Caldwell, Ralph E.	Glendale, Calif.
Briggs, J.K.	Los Angeles, Calif.
Mahaffie, R.L.	Los Angeles, Calif.
Nelson, J.R.	Los Angeles, Calif.
Read, Elkins, Jr.	Los Angeles, Calif.
Irish, J.E.	Long Beach, Calif.
Davis, Emmett S.	Lynwood, Calif.
Gerrard, Robert J.	San Francisco, Calif.
Bridges, Robert S.	Oahu, T.H.
Knight, M.R.	Hinckley, Utah
Griffin, R.V.	Garland, Utah
Farrell, R.H.	Murray, Utah
Johnson, A.W.	Layton, Utah
Williams, D.J.	Layton, Utah
Newren, Alfred L.	Provo, Utah
Wooley, C.	Provo, Utah
Christensen, N.C., Jr.	Salt Lake City, Utah
Hardy, John K., Jr.	Salt Lake City, Utah
Neeley, R.C.	Salt Lake City, Utah
Hughes, Phil	Spanish Fork, Utah
Williams, Walden	Spanish Fork, Utah
Crandall, T.O.	Tooele, Utah
Meacham, Howard D.	Cheney, Wash.
Reavis, K.L.	Cheney, Wash.
Nollmeyer, E.M.	Pullman, Wash.
Wegner, R.E.	Pullman, Wash.
Wilson, J.W.	Seattle, Wash.
Kingen, Elmer F.	Spokane, Wash.
Cotter, H.E.	Walla Walla, Wash.

Lincoln Airplane and Flying School, Lincoln, Nebraska

Thompson, W.W.	Conway, Ark.
Taylor, R.W.	Devon, Conn.
LeCompte, R.G.	Evansville, Ind.
McCarthy, R.J.	Dubuque, Iowa
Nemning, F.C.	Dubuque, Iowa
Bush, L.C.	Estherville, Iowa
Konopisos, T.A.	Sioux City, Iowa
Mack, G.W.	Birmingham, Mich.
Leggat, G.W.	Detroit, Mich.
Lombardy, Bennie L.	Duluth, Minn.

Crawford, D.E. Minneapolis, Minn.
 Larson, R.L. Minneapolis, Minn.
 Mende, C.D. St. Paul, Minn.
 Menshek, F.J. St. Paul, Minn.
 Zeraga, Emanuel, Jr. St. Louis, Mo.
 Ingham, J.M. University City, Mo.
 Meyer, H.J. Cincinnati, Ohio
 Fergen, J.M. Brookings, S.D.
 Egan, J.C. Manitowoc, Wisc.
 Bennett, J.W., Jr. Bloomfield, Mo.

Parks Air College, East St. Louis, Ill.

Reeves, M.H. Little Rock, Ark.
 Snyder, Walter D., Jr. New London, Conn.
 Frankoski, W. J. Waterbury, Conn.
 Christensen, P.W. Chicago, Ill.
 Parrin, E.F. Chicago, Ill.
 Wagner, R.N. Chicago, Ill.
 Weitzenfeld, R.W. Chicago, Ill.
 Wilson, J.A. Hurst, Ill.
 Beauman, S.F. Tunnel Hill, Ill.
 Robinson, F.W. Indianapolis, Ind.
 Schwane, H.E. Ames, Iowa
 Clark, C.V. Brighton, Iowa
 Blaul, M.A., Jr. Burlington, Iowa
 Davis, F.F. Paducah, Ky.
 Rogan, D.A. E. Boston, Mass.
 Vacca, Gerald R. Watertown, Mass.
 Hansen, C.A. Duluth, Minn.
 Berge, R.I. Minneapolis, Minn.
 Harris, C.F. Minneapolis, Minn.
 Berg, L.A. Elmhurst, N.Y.
 Bamberger, F.E., Jr. New York, N.Y.
 Phillips, A.T. White Plains, N.Y.
 Flockhart, J.V. Yonkers, N.Y.
 Novak, S. Yonkers, N.Y.
 Cathcart, J.M., Jr. Fargo, N.D.
 Cathcart, W.S. Fargo, N.D.
 Knapp, R.J. Fargo, N.D.
 Shaw, R.A. Fargo, N.D.
 Craig, F., Jr. Columbus, Ohio
 Lim, J.R. Columbus, Ohio
 Miller, E.E. Columbus, Ohio
 Zatrock, J. Lorain, Ohio
 Spielan, R.S. S. Euclid, Ohio

Ryan School of Aeronautics, Ltd.,
 San Diego, Calif.

Graybeal, J.M. Tucson, Ariz.
 Moya, Jose E. Alhambra, Calif.
 Pritchard, G.L. Burbank, Calif.
 Baraw, J.A. Los Angeles, Calif.
 Beaver, J.A. Los Angeles, Calif.
 Coles, C. Los Angeles, Calif.
 Cowan, Raymond Los Angeles, Calif.
 Lively, R.T. Los Angeles, Calif.
 McClanahan, R.E. Los Angeles, Calif.
 McLeod, S.A. Los Angeles, Calif.
 Pague, W.C. Los Angeles, Calif.
 Palmer, W.E., Jr. Los Angeles, Calif.
 Stein, Milton Los Angeles, Calif.
 Turk, Lloyd R. Los Angeles, Calif.
 Haldeman, E.G. Pasadena, Calif.
 Humphrey, James W. Pasadena, Calif.
 Capach, Warren M. San Diego, Calif.
 Dysinger, L.S. San Jose, Calif.
 Pittensor, Allen E. Santa Ana, Calif.
 Smith, S.T. Santa Barbara, Calif.
 Marshall, D.L. Venice, Calif.

McDonald, D.V. W. Los Angeles, Calif.
 McConnell, William H. Hayden, Colo.
 Murphy, R.K. Twin Falls, Idaho
 Choate, R.I. Miles City, Mont.
 Cole, Hoy C. Missoula, Mont.
 Andes, S.C. Belgrade, Mont.
 Robberson, R. Rosebud, Mont.
 Benjovsky, T.D., Jr. Central, N.M.
 Carleton, B.M. Silver City, N.M.
 Vermillion, W.E. Baker, Ore.

Allan Hancock College of Aeronautics,
 Santa Maria, Calif.

Steves, C.D. Alhambra, Calif.
 Robertson, J.C. Berkeley, Calif.
 Harris, G.W., Jr. Beverly Hills, Calif.
 Peery, J.E., Jr. Beverly Hills, Calif.
 Thomason, R.M. Canoga Park, Calif.
 Steebe, D.R. Cucamonga, Calif.
 Merriam, W.H. Fullerton, Calif.
 Dodson, R.S. Glendale, Calif.
 Fast, R.H. Glendale, Calif.
 Krenzer, Stephens Glendale, Calif.
 Scandrett, H.J. Hollywood, Calif.
 Cliver, W.O. Inglewood, Calif.
 Sweet, G.E. Inglewood, Calif.
 Arnold, T.E. Los Angeles, Calif.
 Bonyng, C.W., Jr. Los Angeles, Calif.
 Criz, A. Los Angeles, Calif.
 Cushing, J.P. Los Angeles, Calif.
 Holsclaw, G.R. Los Angeles, Calif.
 Kolander, C.C., Jr. Los Angeles, Calif.
 Lawson, T.W. Los Angeles, Calif.
 Mallon, E.E. Los Angeles, Calif.
 Mulvehill, J.M. Los Angeles, Calif.
 Shamel, J.W., Jr. Los Angeles, Calif.
 Simeral, R.K. Los Angeles, Calif.
 Wald, Edgar A. Los Angeles, Calif.
 Warmuth, C.O. Los Angeles, Calif.
 Woolley, P.B. Los Angeles, Calif.
 Smith, H.A., Jr. Lomita, Calif.
 Sheppard, Lloyd W. Mill Valley, Calif.
 Hill, R.L. Norwalk, Calif.
 Olds, S.W. Pico, Calif.
 Turner, E.B. Redlands, Calif.
 Rafalevich, A.S. San Pedro, Calif.
 Gray, W.L. Santa Barbara, Calif.
 Armor, F.L. Santa Monica, Calif.
 Cunningham, J.E. Santa Monica, Calif.
 Lamont, N., Jr. Santa Monica, Calif.
 Parra, A.J., Jr. Santa Monica, Calif.
 Sogaard, F.J. Solvang, Calif.
 Werner, W. Pocatello, Idaho
 Vesel, Frank Roundup, Mont.
 Evans, L.E. Lexington, Ore.
 Taylor, W.V. Salt Lake City, Utah
 Walker, W.H. Salt Lake City, Utah
 Cleven, G.W. Bairoil, Wyo.
 Hasperis, T.N. Cheyenne, Wyo.

Spartan School of Aeronautics, Tulsa, Okla.

Watson, E.A. Birmingham, Ala.
 Keith, C. Selma, Ala.
 Burns, B.E. Danville, Ark.
 West, R.H. Jonesboro, Ark.
 Cairns, D.R. Los Angeles, Calif.
 Royal, F.R. Boulder, Colo.
 Lass, E.C. Empire, Colo.
 Witt, A.A.D. Gainesville, Fla.
 V-8449, A.C.

Longino, D.R., Jr.	Atlanta, Ga.	Brannon, T.	Coatsville, Pa.
Beasley, T.R.	Reidsville, Ga.	Langley Field, Va.	
Federle, F.G.	Chicago, Ill.		
Hergert, T.M.	Galena, Ill.		
Leimbacher, E.G.	Joliet, Ill.		
Bringle, Wm. V.	Elkhart, Ind.		
Van Zent, C.L., Jr.	Indianapolis, Ind.		
Wilson, W.W.	Ames, Iowa		
Parks, Fred B.	Garden City, Kans.		
Green, D.J.	Topeka, Kans.		
Stone, D.B.	Wellington, Kans.		
Wertz, Jack W.	Wichita, Kans.		
Harp, D.W.	Lexington, Ky.		
Graf, O.S.	Baltimore, Md.		
Dieudonne, E.L., Jr.	Bladensburg, Md.		
Asselin, H.O.	Allston, Mass.		
Wyman, F.M., Jr.	Stoneham, Mass.		
Grant, Robert F.	Muskegon, Mich.		
Dey, J.J.M.	Pontiac, Mich.		
Haas, W.W.	Minneapolis, Minn.		
Howard, E.T.	Cape Girardeau, Mo.		
Schieber, H.M.	Clayton, Mo.		
Faurel, R.L.	Columbia, Mo.		
Holtbrook, J.F.	Marysville, Mo.		
Kingsbury, R.T., Jr.	New Franklin, Mo.		
Leahy, J.T.	St. Louis, Mo.		
Wittrock, H.H.	St. Louis, Mo.		
Keiser, G.V.	Reno, Nev.		
Robichaud, C.J., Jr.	Belmont, N.H.		
Saltsman, R.H., Jr.	S. Orange, N.J.		
O'Keefe, T.F., Jr.	Brooklyn, N.Y.		
Ramputi, F.R.	Newburgh, N.Y.		
Russo, S.	New York, N.Y.		
Worrell, J.S.	New York, N.Y.		
Chenoweth, L.A.	Peekskill, N.Y.		
Riley, J.F.	Lidgerwood, N.D.		
Davis, J.P.	Norwood, Ohio		
Cochran, Dennis	Kenton, Okla.		
Cason, W.A., Jr.	Lindsay, Okla.		
Bell, G.V.	Prague, Okla.		
Durham, S.B.	Stillwater, Okla.		
Eck, A.I.	Waukomis, Okla.		
McCool, H.C.	Humphrey, Okla.		
Birch, H.R., Jr.	Kingston, R.I.		
Pulfrey, R.E.	Amherst, S.D.		
Bartling, G.E.	Brookings, S.D.		
Olson, H.R.	Huron, S.D.		
Grubb, S.F.	Knoxville, Tenn.		
Carswell, H.S., Jr.	Fort Worth, Texas		
Crayton, J.J., Jr.	Houston, Texas		
Beach, E.C., Jr.	Pearsall, Texas		
Snider, M.C.	San Antonio, Texas		
Swain, R.L., Jr.	Danville, Va.		
Van Patten, Perry H.	Cheney, Wash.		
Leen, G.A.	Everson, Wash.		
Knuppenburg, J.E.	Seattle, Wash.		
Carah, R.	Brichwood, Wisc.		
Ostrowski, B.B.	Custer, Wisc.		
Goetsch, D.H.	Hustisford, Wisc.		
Fohr, J.M.	Milwaukee, Wisc.		
Rogers, F.V.	Milwaukee, Wisc.		
Thacker, J.M.	Miami, Fla.		

NOTE: All of the above listed students were appointed Flying Cadets from civil life.

FLYING CADETS - ENLISTED MEN

Alabama Institute of Aeronautics, Inc.

Pope, W.T. Monticello, Ga.
Maxwell Field, Ala.

Atlanta, Ga. Brannon, T. Coatsville, Pa.
Langley Field, Va.

Chicago School of Aeronautics

Banas, Edward Trumbull, Conn.
Chanute Field, Ill.
Newton, Jacob L. Champaign, Ill.
Chanute Field, Ill.
Lenke, Theodore J. Mattoon, Ill.
Selfridge Field, Mich.
Smith, Jack S. Oak Park, Ill.
Chanute Field, Ill.
Hall, Gordon E. Wapella, Ill.
Chanute Field, Ill.
Froberg, Joseph G. Brockton, Mass.
Mitchel Field, L.I., New York
Hill, Francis A. Westwood, N.J.
Chanute Field, Ill.
Slattery, Burnell T. Rapid City, S.D.
Chanute Field, Ill.
Luschen, Frank L. Seattle, Wash.
Chanute Field, Ill.

Dallas Aviation School and Air College

Turner, David C. Flagstaff, Ariz.
Kelly Field, Texas
Canada, W. W. Hot Springs, Ark.
Barksdale Field, La.
Lobato, E.J. Alamosa, Colo.
Brooks Field, Texas
Colman, H.E. St. Petersburg, Fla.
Maxwell Field, Ala.
Snaith, W.G. Sarasota, Fla.
Fort Benning, Ga.
Hasty, R. L. Bloomingdale, Ga.
Lowry Field, Colo.
Williams, H. L. Cordale, Ga.
Hensley Field, Texas
Conrad, F.V. Topeka, Kans.
Moffett Field, Calif.
Vidrine, G.B. Opelousa, La.
Barksdale Field, La.
Griebel, C.R. Mabel, Minn.
Moffett Field, Calif.
Summerall, R.M. Isola, Miss.
Barksdale Field, La.
Adams, C.F. White Plains, N.J.
Mitchel Field, N.Y.
Simon, L. Brooklyn, N.Y.
Mitchel Field, N.Y.
Penix, Guymon Elk City, Okla.
Randolph Field, Texas
Prochasko, Q. V. Watauga, S.D.
Moffett Field, Calif.
Flynn, E.L. Corsicana, Texas
Randolph Field, Texas
Fenlaw, H.S. Dallas, Texas
Kelly Field, Texas
Rose, F.L., Jr. Houston, Texas
Randolph Field, Texas
May, Charles O., Jr. San Antonio, Texas
Camp Bullis, Texas
Sackwell, V.P. Talco, Texas
Kelly Field, Texas
Patterson, R.R. Valley Mills, Texas
Randolph Field, Texas
Delashaw, R.L. Whitesboro, Texas
Kelly Field, Texas
Anastasia, E.P. Racine, Wisc.
Chanute Field, Ill.

Cal-Aero Training Corporation

Walton, R.M. Live Oak, Calif.
Hamilton Field, Calif.
Sawyer, J.R. Chicago, Ill.
Schofield Barracks, T.H.
Magruder, E.H. Kevil, Ky.
Fort Kamehameha, T.H.

Lincoln Airplane and Flying School

Tausch, R.H. Eureka, Calif.
Chanute Field, Ill.
Robinson, O.E. Normal, Ill.
Chanute Field, Ill.
Socha, W.F. Syracuse, N.Y.
Chanute Field, Ill.
Powell, E.A. Lovell, Wyo.
Chanute Field, Ill.

Parks Air College

Sampson, R.D. Chicago, Ill.
Chanute Field, Ill.
Trinkle, R.A. Leroy, Ill.
Chanute Field, Ill.
Smith, L.A. Oak Park, Ill.
Chanute Field, Ill.
Bawol, C.M. Sauquoit, N.Y.
Mitchel Field, N.Y.
Falkner, V.V. Eugene, Ore.
Scott Field, Ill.
Marquardt, W.C.A., Jr. South Range, Wisc.
Chanute Field, Ill.

Ryan School of Aeronautics, Ltd.

Monsees, A.M. San Francisco, Calif.
Hamilton Field, Calif.
Whiteman, G.A. Sedalia, Mo.
Fort Barry, Calif.
McCarty, Wayne W. Aurora, Neb.
Oceanside, Calif.
Jackson, H.E. Reiffon, Pa.
Glendale, Calif.

Allan Hancock College of Aeronautics

Gowdy, F. B. Little Fork, Minn.
March Field, Calif.
Hartman, G.R. Barnard, Mo.
Hamilton Field, Calif.

Spartan School of Aeronautics

Blehm, H.E. Wellington, Colo.
Lowry Field, Colo.
Hudson, R.H. Sanatorium, Miss.
Barksdale Field, La.
Sarle, N.P. Brooklyn, N.Y.
Mitchel Field, N.Y.
Mosher, R.O. Kirkville, N.Y.
Mineola, N.Y.
Bridgers, W.M. Rowland, N.C.
Langley Field, Va.
McKown, B.C. Akron, Ohio
Maxwell Field, Ala.
Kenny, T.F., Jr. Youngstown, Ohio
Langley Field, Va.
Alley, J.W. Oklahoma City, Okla.
Denver, Colo.

Lowe, R.S. Butler, Pa.
Langley Field, Va.
Schnebly, T.H. Colver, Pa.
Langley Field, Va.
McVey, J.A. Lansdowne, Pa.
Maxwell Field, Ala.
Anderson, B.C. Timpson, Texas
Chanute Field, Ill.

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CHINESE OFFICER AT THE TACTICAL SCHOOL Continued from Page

Spartan for the son of a president. It contains but an Army cot, chair, dresser and bathroom. Apparently most democratic, Lieut. Wego commented upon the 'sumptuousness of his suite.' He is messing at the airdrome's officers' club.

Outside of his military profession, his main hobby is horseback riding, and he expects to avail himself of the mounts at Maxwell Field. He expressed keen interest in the Air Corps Tactical School Horse Show, held at Maxwell Field on April 20th.

Lieut. Wego stated he was more impressed than ever with Montgomery, and that the unfailing Southern courtesy intrigues him. He said that he has read about it and that it was a pleasure to discover that the literature he had read even understated the true facts in this regard. Just recently he made an automobile trip of Montgomery and vicinity, and he was amazed at the beauty and profuseness of the flowers in bloom this early in the Spring, stating that it was a sight to be remembered and that he would treasure it in his memory.

Lieut. Wego said he did not know at this time where he would be sent upon completion of the Tactical School course in June.

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A MODIFIED VERSION OF THE INSTRUCTOR'S PRAYER

Private Erwin, Air Corps News Letter reporter of the 61st School Squadron of the Air Corps Advanced Flying School, Kelly Field, Texas, submitted the following modification of the "Instructor's Prayer" as it appeared in a recent issue of LIFE magazine. All material in parentheses is by Erwin.

"My student is a headache - I do not want. He maketh me to lie down at night very weary. He leadeth me beside high tension wires. (He destroyeth my spirit.) Yea though I fly on the clearest of days, I fear much evil, for he is with me. (Should he graduate, still I must suffer, for others will follow him. Surely headaches and misery shall follow me all the days of my life, and I shall dwell in the shadow of ground loops and 'dumb-bells' forever.)"

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The following-named Air Corps officers have been assigned to the 15th Observation Squadron at Scott Field, Belleville, Ill.: Major Raphael Baer, Jr., Captain James A. Ronin, 1st Lieut. William J. Bell, 2nd Lieuts. Henley V. Bastin, Jr. Robert C. Orth and James E. Setchell.
V-8449, A.C.

"WING DING" AT BOLLING FIELD

Honoring General George C. Marshall, Chief of Staff, officers of the Air Corps stationed in the Washington area gathered at the Bolling Field Officers' Club on Tuesday evening, April 2nd, for a "Wing Ding." General Marshall delivered the principal address of the evening, and it was preceded by preliminary talks given by Brigadier General H.A. Dargue, Commander of the 19th Wing in the Panama Canal Department, and Colonel Follette Bradley, Air Officer of the Puerto Rican Department.

A total of 154 officers was present, including some other officers from distant stations, among whom were Brigadier General Frank D. Lackland, Commanding the First Wing, GHQ Air Force, March Field, Calif.; and Brigadier General Frederick L. Martin, Commanding the Third Wing, GHQ Air Force, Barksdale Field, Shreveport, La.

Among the other general officers, in addition to the speakers, were Generals Henry H. Arnold, Delos C. Emmons, Philip B. Peyton, Barton K. Yount, Jacob E. Fickel, Arnold N. Krogstad and Richard C. Moore.

Following the dinner and the talks, the Air Corps Song was played, and the entire group, ably led by Lieut. John H. Cheatwood, sang the words, thus completing another of the numerous, yet never to be forgotten social activities of the Bolling Field Officers' Club.

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MORE AIRPLANE MECHANICS FOR AIR CORPS

On April 12th, 79 students were graduated from the Airplane Mechanics course, Department of Mechanics, Chanute Field Branch of the Air Corps Technical School, from stations as indicated below:

Barksdale Field, La.: Pvts. Everett W. Liteljorge, Wm. E. Farrow, Allan E. Kile, Vernon G. Leppink, Russell E. Means, Claire L. Pattengale, Herbert A. Rooney, Robert T. Savage, Richard C. Smith, Russell E. Sollars, Mack Sweeney and Lowell N. Watson.

Brooks Field, Texas: Pvt. Leroy Mullen.
Chanute Field, Ill.: Tech. Sgt. Edgar L. Krug and Pvt. 1st Cl. Donald R. Colquhoun.

Hamilton Field, Calif.: Pvts. Donald L. Burke, Wm. H. Burton, Michael Ewas, Irving M. Hoffman, John W. Johnson and Robert E. King.

Langley Field, Va.: Pvts. Ellis M. Jones, Philip Bortnick, Thomas C. Bugaj, Raymond A. Burge, Charles T. Graves, Frank A. Hackbarth and Louis F. Hagan.

Lowry Field, Colo.: Pvts. Loren E.

Abell, Earl L. Hornbuckle and H.H. Ware.
March Field, Calif.: Pvts. Kenneth W. Cowell, Robert T. Cowles, Kenneth D. Barlow, Thomas R. Brown, Elmer F. Collins, Henry S. Godlewski, Wm. O.M. Goroncy, Edward N. Hall, Thomas R. Hollingsworth, George F. Lawhorn, U. Henry L. Popisil, Maurice W. Robinson, Frank L. Rubala, Edward L. Sensor, George A. Sharpes, Charles G. Stand, Eugene E. Warren, Earl T. Williams, Floyd Wright and Snthony J. Zahora.
Maxwell Field, Ala.: Staff Sgt. Samuel T. Nelms, Corp. Gerald S. Willett, Pvts. Thomas A. Miller, Audley Hard Comer, James White and Hugh E. Youngblood.

Moffett Field, Calif.: Pvts. Karl Berg, Manly J. Clausen, John A. Diefenbach, Harvey H. Dimmick, Frank A. Harangody, Vincent Longo, Thomas D. Middleton, Richard J. Morgan, Fred M. Ransom, Wm. R. Roycraft, Otto Schaeffer, Ronald W. Smith, Ferd E. Weiler.

Randolph Field, Texas: Pvt. Ernest W. Alexander, Jr.

Scott Field, Ill.: Pvts. Herbert H. Halwes, John M. Hannan, Jr., Manly O. Richmond, James R. Van Tilburg, Billy S. Williams and Wm. C. Woodman.

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NEW CONTROL TOWER AT WRIGHT FIELD

With construction of the new control tower 90 percent completed, direction of local traffic at Wright Field from the tower awaits the arrival and installation of the equipment requisitioned. An airdrome control transmitter, similar to those now being installed in other Air Corps airdromes, would provide a range of approximately 25 miles. Plans include four receivers and interphone connections with the Weather Station and other offices. The tower is located atop Hangar No. 3 above the present Operations quarters, and will be in operation during working hours, from 8:00 a.m. to 4:00 p.m.

Until the new equipment is installed, traffic control will be continued from the present quarters on the ground floor of Operations.

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ENLISTED MEN STUDY DE-ICING EQUIPMENT

A new addition to the several ingenious jigs built at the Curtiss-Wright Technical Institute, Glendale, Calif., the only civilian school in the West handling the instruction of Air Corps mechanics, is a complete de-icing equipment, mounted to operate exactly as it does on an airplane, but under conditions where students can easily study and dissect the apparatus.

ONE HUNDRED PERCENT SAFETY
By the Materiel Division Correspondent

No organization of flyers appreciates and understands more fully than the U.S. Army Air Corps an annual record of one hundred percent safety, such as was recently announced by the United States commercial airlines. And no other organization extends more sincere congratulations for the accomplishment.

In Dayton, Ohio, however, Mr. Douglas Ingells, reporter of the DAILY NEWS, had the idea that the airlines might in turn care to acknowledge Army Air Corps aid through shared developments in the establishment of this record. Quite upon his own inspiration, he sent queries to several of the airline executives. The resulting response was of such generosity that, in all modesty, we believe that it will not be detracting from but rather adding to the excellence of that record if a few of the telegrams are published.

The following came from R.W. Schroeder, Vice President of United Airlines:

"Twenty-two years of constant development of engines, aircraft propellers, instruments, radio, equipment, and accessories coming out of the Air Corps at Wright Field, plus the splendid cooperation between the Air Corps engineering division and the airlines, have in my opinion contributed in a very large measure to the excellent safety record of the past year in air transportation. It is with pride that the writer sends this wire for he, too, was a product of the Air Corps at Dayton."

The second quotation is from Eddie Rickenbacker, President of Eastern Airlines:

"Heartiest congratulations to un-
lessing personnel of Wright Field who
through their contributions and un-
tiring effort in the development of
all aircraft safety factors and de-
sign have made possible the air
transport industry's unequalled
safety record during the past year."

The third appreciation comes from
Jack Frye, President of Transcontinent-
al and Western Air:

"Cooperation of the U.S. Army Air
Corps at Wright Field, Dayton, with
the commercial airlines of the na-
tion has formed an integral part of
air transport's campaign for safety,
which has resulted in a full year of
flying without fatality or injury to
any person. . . . In my mind is the
thought that this safety can, and
will, continue, and that the U.S. Army
Air Corps, Materiel Division, at
Wright Field, contributed greatly in

establishment of the record by releas-
ing many developments for airline use
while they remained on the exportation
restriction list.

"The work of Captain Harry G. Arm-
strong, Director of the Aero Medical
Research Unit at Wright Field, has
been outstanding in determining
practicability of commercial flights
at higher altitudes.

"The development of the Wright G-102
engine was an advancement in airplane
motors that the U.S. Army Air Corps
released for airline use in 1936.
These engines were first placed in
use by TWA in 1936 and many airlines
now use them, because of the coopera-
tion of the Wright Field Air Corps.

"The Chandler-Groves carburetors
now used on all of TWA's DC-3 model
planes were first developed at Wright
Field by the Army and are an outstand-
ing improvement in carburetors.

"The constant speed propeller was
developed by Army Air Corps research
men and the results of their findings
were turned over to the airlines.

"Many of the pilot personnel of TWA
are at present on reserve squadrons
of the U.S. Army Air Corps, and TWA's
chief pilot, Otis Bryan, has had
active duty work with the Army's
'Flying Fortress' plane, the Boeing
B-17B, which is the military counter-
part of the Boeing 'Stratoliner'
which TWA will place in service this
spring. Plans for the 'Stratoliner'
were worked out in conjunction with
the Army's 'Flying Fortress' plans as
the passenger model followed the B-17
planes in construction.

"The close cooperation of the Air
Corps at Wright Field with TWA and
other lines is an important phase of
commercial air transport's campaign
for safety in the air. The coopera-
tion not only brings safety, but also
enables America to continue its rank-
ing as the outstanding aviation na-
tion of the world."

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The April 8th issue of LIFE magazine
featured pictures taken at the time of
the completion of primary flight train-
ing by Cadets of Class 40-E at the Ryan
School of Aeronautics, San Diego, Calif.

LIFE'S photographer, George Strock,
spent three days with the detachment
photographing training activities, also
the Cadet party for their instructors
and the formal dance which marks the
successful completion of final check
rides before Cadets depart for their
basic training at Randolph Field.

ARMY DAY AT AIR CORPS FIELDS

Wright Field, Ohio

Once more on April 6th, Army Day was proclaimed at the Materiel Division, Wright Field. Visitors were invited between the hours of 8:00 and 11:00 a.m. Entering by a gate west of the main gate, automobiles for the 3,000, who availed themselves of the invitation to the public, were parked on the field near the entry. From their cars the guests were conducted to the flying line, where a large number of the most recent (unrestricted) airplanes were on exhibition.

Formation flying of three A-17A airplanes, piloted by Captain M.C. Woodbury, Lieuts. H.L. Donicht and P.F. Helmick, and a demonstration of the B-18A (Lieuts. Ritland and Price), P-36 (Lieut. Dick), and P-40 (Lieut. Cooper) took place in the morning. Contrary to tradition, the day was beautiful and the flying showed off at its best. Reserve officers served as guides, and groups of visitors who desired the opportunity were brought to the Army Aeronautical Museum to see the interesting collections which are installed there.

The Museum, by the way, has been under constant improvement. Careful selectivity has been used in accepting new articles offered for display, and definite ingenuity has led to the attractive arrangement of both working and still exhibits. The Museum is one of which the Army Air Corps may well be proud, and visitors, military and civilian, cross its threshold with a pleased start of surprise at the array of well lighted objects which greet the eyes. Although no longer open to lay visitors, all military personnel coming to Wright Field are cordially invited to pay a visit to the Museum. Their suggestions and criticisms will be cordially welcomed, but it is believed that they will also find within its walls that which they may admire and enjoy.

At 2:45 in the afternoon, a 15-minute broadcast was staged at the Field by the Columbia Broadcasting System. The program was carried over a nationwide network and also by the British Broadcasting System. This broadcast featured Materiel Division activities, especially aerial photographic developments. It was opened by a brief introduction of Colonel Oliver P. Echols, Assistant Chief of the Materiel Division, and in charge at Wright Field for Brigadier General G.H. Brett, whose offices are now in Washington. Colonel Echols described briefly the effect of the expansion program on Wright Field in in-

creased test, development, and procurement activities, in the building program and increased number of persons employed. "Looking aloft," Colonel Echols said, "we see new training and tactical airplanes in flight. Looking about, we see new buildings under construction. Over next to the original Power Plant Laboratory building, a huge new Dynamometer Laboratory is going up. In another direction, a new Wind Tunnel building. Looking toward the Operations Office, we see the control tower overtopping all other buildings on the Field."

This was followed by the introduction of Captain Donald L. Putt, who in the C-39 Douglas flying aloft demonstrated the taking of a photograph of the new Wright Field control tower, the development of the negative by quick-work photographic methods in four minutes, and dropping the processed picture in a tube to the ground. Each process was briefly described by the question and answer method between the announcer on the ground and Captain Putt in the airplane in a manner to interest the many amateur photography fans for whom the program held special interest.

Following the dropping of the tube, color photography, mapping, and multiplex aero projector methods were described by Captain John H. Fite, in charge of the Motion Picture Laboratory at Wright Field. Captain Fite substituted for Major Goddard, who had gone to Jacksonville, Fla., to photograph the solar eclipse. The program ended with Mr. J. J. Maskey's description of the new sub-zero flying clothing developed at Wright Field for use at the new Alaskan air bases.

Due to the fine coordination of all those aiding in the technical hook-up, as well as those responsible for the broadcast script, the performance was smoothly carried out and, it is hoped, interested a wide circle of listeners.

Captain J.K. DeArmond was in charge of the radio installation in the airplane and Captain Donald Graul of technical ground installations. Mr. Fred Wheeler, of the Columbia Broadcasting System, and two CBS engineers, were flown from New York to Wright Field to assist Mr. Lester Spencer, in charge for the local WHIO broadcasting station, and his staff. The broadcast originated at Mr. Spencer's suggestion and request.

As in all previous Army Day demonstrations, this one left no doubt of the avid interest of the younger generation in all that pertains to airplanes and flying.

(Continued on Page 17)

Hamilton Field

Open House was in order at Hamilton Field, Calif., on Army Day. Normal duties were carried out at this Base in the morning, and a program was staged for the afternoon hours from 1:00 to 5:00 p.m., which included the display of equipment in Hangar No. 7, formation flying and the dropping of parachute dummies.

A loud speaker system was used during the formation flying to explain the various tactics. Heavy and medium Bombers, Amphibian and Attack planes were exhibited, as well as parachutes, propellers, radio equipment, aerial gunnery and photographic equipment, and a model message center.

Twelve B-18 airplanes flew formation from 2:30 to 3:30 p.m. Parachute dummies were dropped for demonstration between 3:00 and 3:15 p.m. The final flying demonstration, with six B-17 airplanes, took place between 3:15 and 3:45 p.m.

The Post Exchange operated a stand in the vicinity of the exhibits and sold hot dogs, hamburgers, candy and soft drinks to hungry sightseers.

March Field

The most outstanding display during the recent Army Day observance at March Field, Riverside, Calif., was the ten-minute motion picture show ordered by the First Wing, and prepared in Kodachrome by the Photographic Section of the 38th Reconnaissance Squadron (L/R), HQ Air Force. An audience estimated at 2400 persons was present.

The school room in the Squadron hangar was converted into a temporary theater by boarding up the windows, fresh air being provided by opening wide the room during intermissions.

The picture, which was accompanied in the best news reel style by both music and dialogue, presented excellent shots of B-18A's in formation over land and water, some views of the Hopi Indians at the Grand Canyon, and a general pictorial presentation of routine Air Corps activities which contained shots of engine maintenance and repair, parachute drop testing, instrument repair, armament and radio work, and a shot of a typical weather map.

Because of its location near the main route of entry to the March Field hangar line, the 38th Squadron was selected as a central display room for the Army Day festivities, and it was here that all the educational displays presented by the post were set up.

These included a parachute packing table where, before the eyes of the

public, parachutes were folded and placed in their containers; a motorized instrument display board, where tachometers and instruments of other types were seen at work.

Another feature, in conjunction with the 4th Air Base Photographic Laboratories, was a display of most types of aerial and ground cameras, together with a suitable group of pictures prepared with the aid of the various types of cameras. A photographic dark room, equipped with red windows, enabled the public to watch negatives being developed and prints being made from them.

Displays of engines of various types, propellers in many stages of assembly, and the numerous articles of Air Corps safety equipment, such as rubber life boats, vests, and the like, attracted a large percentage of the crowd of more than 20,000 visitors to March Field during the day.

A typical soldier's equipment display was presented by Sergeant Benedetti, of the 38th Reconnaissance Squadron, whose foot locker, wall locker and bunk were opened to the public for inspection.

Langley Field, Va.

20th Bombardment Squadron: The outstanding part of this Squadron's participation in Army Day exercises on April 6th consisted of the Instrument Flight from Mitchel to Langley Field, made by Major McDaniel, Squadron Commander; Captain Matheny and Lieut. Ragsdale in a B-17 airplane. The entire flight was made on instruments, including the take-off and landing, with Major McDaniel under the hood, Captain Matheny as copilot, and Lieut. Ragsdale as navigator. The flight was described in detail on the front pages of the nation's newspapers by the Associated Press's Aviation Reporter, who accompanied the regular combat crew on the trip in order to observe the procedure on a flight of this kind. This pioneering achievement was accomplished with all the smoothness of a routine flight and serves to establish the value of instrument training in military aviation.

52nd Bombardment Squadron: On April 6th, le Jour d'Armee - as the French have it, all routine squadron duties were cancelled, and the B-18A of the 52nd was placed on display on the line for inspection by the public. Throughout the day, an officer and a noncommissioned officer of the Squadron were detailed for two-hour periods at the plane to answer any questions that the visiting public might have to offer. Along the ramp, other squadrons of the field placed ships on display - from diminutive P-36 and P-37 "Pea Shooters"

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to the giant B-15:

Air Corps Training Detachment.
Ryan School of Aeronautics.

This unit sponsored a widely attended Army Day program at Lindbergh Field, San Diego, Calif., between 9:00 a.m. and 4:00 p.m., on Saturday, April 6, 1940. Several definite conclusions were reached.

a. The civilians of this community are vitally interested in military displays and attended in great numbers throughout the day.

b. It enabled presentation of the training program to the public in a satisfactory and favorable manner.

All Flying Cadets of this unit received mimeographed descriptive data on visiting aircraft and were drilled on all data and on the importance of courtesy. Certain additional information concerning handling of crowds, policing of secret installations, fire prevention, etc., was taken up in detail at lectures during the week.

The highly cooperative attitude of local newspapers and broadcasting stations aided very greatly in effectively publicizing the display. "It is believed," says the News Letter Correspondent, "that duplication of this event at other schools located near centers of population might be of real aid in Flying Cadet procurement."

In the display, in addition to that sponsored by the 251st Coast Artillery (A.A.), National Guard, embracing four new anti-aircraft guns, two 800,000 candlepower searchlights, one giant wire-laying truck and one ground, two-way aircraft radio set, there were eleven distinct types of military airplanes, i.e., Consolidated XB-24, Boeing B-17B and Douglas B-18 Bombers; Curtiss P-36A, Boeing P-6E and P-12 Pursuit planes; North American BC-1A basic combat plane and BT-9 Observation plane; Northrup A-17A Attack plane; Douglas BT-2 Observation plane and Ryan Army Trainers.

Events on the program were parachute drop testing from a Douglas B-18A Bomber from March Field (3 parachutes) from 1:15 to 1:30 p.m.; aerial communication to police car by Lieut. John H. Dougherty speaking and Lieut. H.B. Duckworth piloting BC-1, at 1,500 feet over Lindbergh Field, demonstrating practicability of directing from the air motorized troops, 1:30 to 2:00 p.m.; Band Concert by Brown Military Academy Band, 2:00 to 3:00 p.m.; Aerial communication to police car, 2:30 to 3:00 p.m.; Parachute drop testing, 2:30 to 3:00 p.m.; "Army Day," address by Lieut. H.B. Duckworth, Commanding Officer of the Air Corps Reserve Base, from a BC-1 at an altitude

of several thousand feet over Lindbergh Field.

Other speakers participating in the program were Mr. Frank G. Forward, President of the Chamber of Commerce; Colonel John H. Sherman, Commanding 251st Coast Artillery, A.A.; Major E.R. McReynolds, Inspector, Air Corps, at plant of Consolidated Aircraft; Captain John C. Horton, Air Corps Supervisor of Instruction of Cadets; Lieut. Lloyd Hopwood, Assistant to Captain Horton; and Cadet Captain Karren Bennion.

Moffett Field, Calif.

The 20th Pursuit Squadron participated in its first Army Day aerial review. A six-ship flight of this organization served as the assault in the 35th Pursuit Group interception and attack against a nine-plane squadron of B-18's from March Field, Calif. "From the appearance of the combat," declares the News Letter Correspondent, "Pursuit has not lost any of its striking power."

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NEW N.A.C.A. LABORATORY AT MOFFETT FIELD

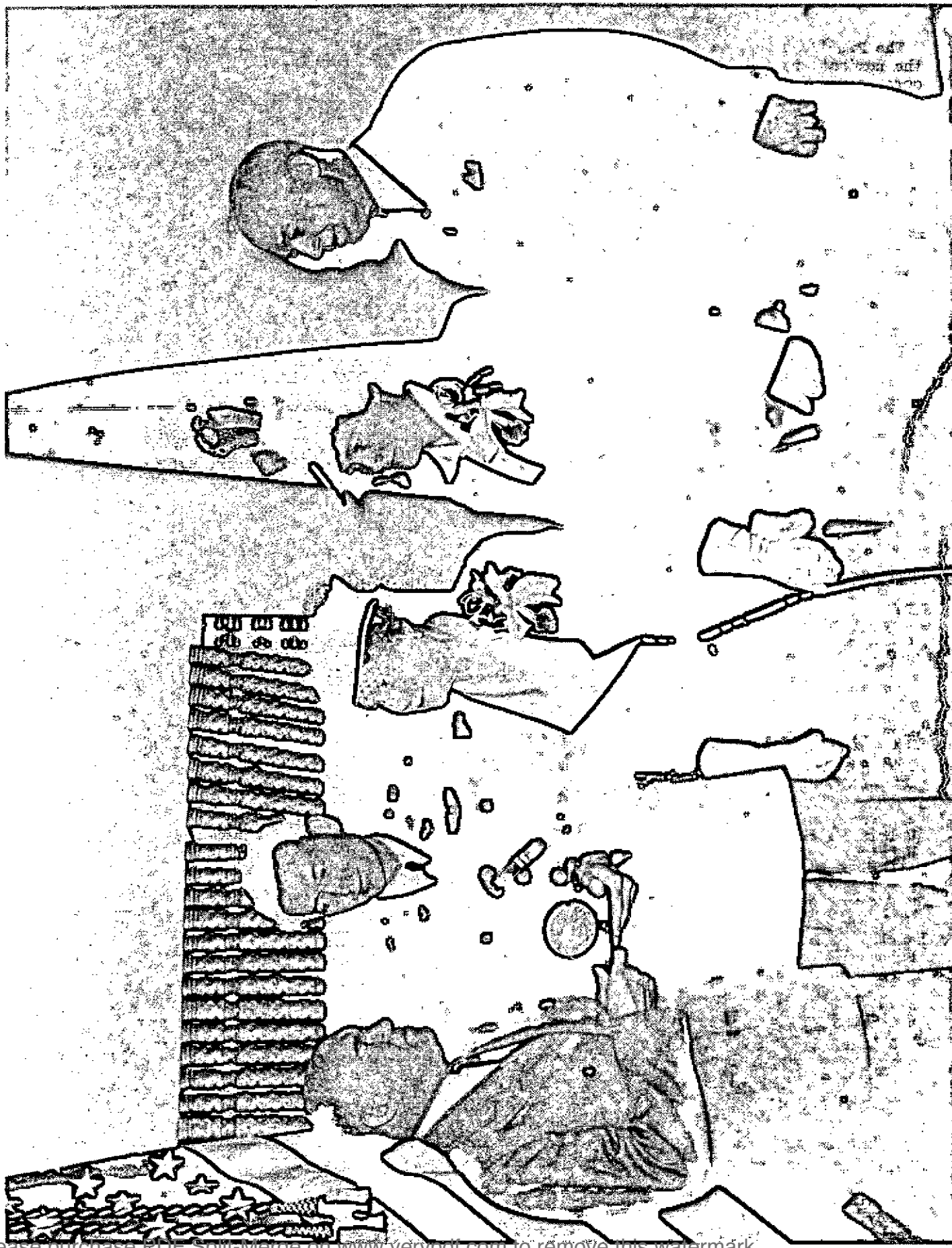
The ten million dollar aeronautical research laboratory, now under construction at Moffett Field, Calif., has been named the "Ames Aeronautical Laboratory." It was announced recently, honoring Dr. Joseph S. Ames, former Chairman of the National Advisory Committee for Aeronautics.

The choice of the name was made public at a luncheon of aviation leaders in Washington, D.C., celebrating the 25th anniversary of the founding of the N.A.C.A. Dr. Ames, who was chairman of the organization for twenty years, retired in October, 1939.

The laboratory at Moffett Field has been designed to extend the work that has been done at Langley Field, Va. Construction of the huge laboratory and wind tunnel at Moffett Field was started several weeks ago and is progressing rapidly. Mr. Edward R. Sharp is the local administrative officer and has set up offices on the field.

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Major Henry C. Wisehart, Air Corps, who has been on duty with the Organized Reserves, 7th Corps Area, with station at Richards Field, Kansas City, Mo., has been assigned to duty in the Office of the Chief of the Air Corps, Washington, D.C. He was succeeded as Air Corps Instructor of the Organized Reserves at Kansas City by Captain John E. Bodley, Air Corps, who commanded the Headquarters and Headquarters Squadron of the 36th Pursuit Group, Langley Field, Va., which was activated on February 1, 1940.



KELLY FIELD STUDENT OFFICER CITED FOR BRAVERY

By the News Letter Correspondent

I Section, Kelly Field, never allows distinguished deeds of bravery, daring, or thoughtlessness to go unrewarded. In the April 1st issue of the Air Corps News Letter, the imprudence of retracting the landing gear while on "terra firma" by a Flying Cadet of Section I was only rewarded by allowing that Cadet to prepare a detailed discussion, for the Air Corps News Letter, on the proper use of the gear. This month I Section recognized one of its members for bravery. It is well to point out here that many similar examples of bravery, daring, or imprudence, as the case may be, are continually appearing in all of the five flying sections at the Advanced Flying School; however, I Section, as above stated, seldom allows such deeds to pass unnoticed.

It was 7:00 a.m., Tuesday, April 16, 1940 - just another day for the Class of 40-C at Kelly Field - another period of transition flying, maybe an instrument check - just routine stuff. Then, the first thing off the bat, I Section of said Class of 40-C was turned out en masse for - of all things - a military formation! Unheard of, indeed! But, true soldiers that they are, I Section took no time at all to form in military array in front of Section headquarters.

The purpose of this sudden display had 'em all stumped. Perhaps it would be an inspection! Of course - shoes! They didn't have the shine they might have. Probably "Spring Buck-up!" But no camera! Could it be another one of those damn picture-taking formations? Well, nothing to do but wait.

It wasn't long before a small band of four emerged from section headquarters - Captain Choate, with Lieuts. Webster, Meyer and Breitweiser. A staff! Of course. Gotto have a staff. But such rank! It was still mystifying. Around to the front of the Section they marched with military precision in echelon. Or was that echelon? No, I guess not. Just Lieut. Meyer trying to catch up. At any rate, the quartet eventually managed to arrive in front of the Section in fairly good shape.

A hush fell over the troops! Then from Lieut. Webster: "Lieut. F..... front and center!" Lieut. F..... smelled a rat. Why shouldn't he? He remembered what had happened to him just a week before. He'd been remembering it ever since! Lieut. F..... took his post. Then came the voice of Adjutant B-weiser booming forth the following message:

HQRS. THE AIR CORPS DISPROVING GROUNDS

Citation: D.F.C. (Defunct Fuel Container)

To: Lieut. F..... C.A.C.,
Student, Class 40-C.

1. On April 9, 1940, Lieut. F....., at utter disregard for personal safety and with absolutely no fear for loss of life or limb, disproved all previous concepts of the limitations of a flying machine when operated to spread fertilizer. On this date, in BC-1 airplane No. 23, Lieut. F..... purely in the interest of science, timed a N.E. take-off from Kelly Field so that just as he cleared the hangar line at 300 feet his gasoline supply became zero in one tank. Determined to complete his experiment at any cost, Lieut. F..... declined to avail himself of the 55 gallons of gasoline in the other tank, and made a nose-high turn to the left. Just north of Kelly Field, Lieut. F..... noticed a gang of laborers spreading fertilizer over a field which had previously been plowed with furrows running North and South. He decided to help out a bit in spreading the fertilizer and at the same time prove that a BC-1 airplane could land down-wind, down-hill, and cross-furrows. This he proceeded to do, but just after touching the ground, Lieut. F..... noticed a barbed wire fence at the end of the field, some hundred yards ahead of him. "What the H...," he thought. "I've got 75 miles per hour on a 5000 pound battering ram - a little thing like a fence can't stop me. I think I'll knock down a post, too, just to make a good job of it." Needless to say, all this was done as planned, and then what should catch Lieut. F.....'s roving eagle-eye but a 4-foot irrigation ditch running across his path another few yards ahead. After analyzing the situation from every viewpoint, this intrepid aviator decided to take advantage of the dirt-pile paralleling the ditch and do a little catapulting. Sure enough, the airplane leapt the ditch like a gazelle, and then repeated the performance when the next ditch came up. In the interim, fertilizer was flying in all directions and it was found that the radio loop antenna is not quite as satisfactory for this job as a standard four-tined pitchfork.

When the airplane finally came to rest, Lieut. F..... glanced over his left shoulder, expelled the breath he

(Continued on Page 20).

FAST WORK IN CHANGING AN AIRCRAFT ENGINE

A crew of eight men of the 1st Bombardment Squadron, Mitchel Field, N.Y., started one morning recently to change the left engine on a B-18A airplane. Outside the ropes a large crowd of spectators, including a delegation of 15 officers and enlisted men from Langley Field, Va., stood by to referee and kibitz. The new engine had been set-up by the Base Engineering Department as far as possible, except for the installation of the propeller. All tools were laid out as precisely as those of a surgeon in an operating room.

In forty minutes the old engine was off the ship, work having been started at 10:20 a.m. By 1:05 p.m., the new engine had been installed, serviced and ready to start. Then the engine was given a 30-minute ground run-up. After the run-up and tests were completed, the oil was drained, the cuno strainer was cleaned, the sump was drained and the strainer cleaned. A hundred quarts of new oil were pumped into the tank, and the engine cowling was installed. All this took nine minutes. At 1:45 p.m., just 3 hours and 25 minutes after the start of the engine change, the ship was ready for flight. The aim at the start had been a change in four hours. That would have been considered a very good time, but the crew bettered this mark by 35 minutes.

Just to prove that the fast time on the first engine was not an accident, the 1st Bombardment Squadron crew, six days later, changed the right engine on a B-18A in the 5th Squadron at the same time a 5th Squadron crew changed the left engine on the same ship. These changes were made under the same conditions, except that new propellers were installed on the engines while they were on the stands. For these changes the elapsed time from start to being ready for flight was only two hours and 47 minutes. It should be noted here that the right engine is the harder to change because of the extra connections for the heater.

The members of the 1st Squadron crew on the first engine change were Tech. Sgts. P.G. Smith, M.M. Ebinger, Staff Sgts. L.C. Sickles, D. MacConnell, A.T. Rubano, Sergeants W.L. Jones, B. Stravrides and J. Joseph. On the second engine change, the last three members of the above crew were replaced by Sergeants E. Kooi, R.J. Callup and Pvt. E.D. Pacilio. The experience of these men ranged from one to eighteen years' service in the Air Corps. All either hold or have held Airplane Mechanic ratings.

As a reward for their fine work, these

crews were entertained at a party given by the Group Commander, Lieut. Colonel C.W. Connell, Air Corps.

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Student Officer Cited for Bravery (Continued from Page 19)

had been holding for the past 83 seconds, and said, "Whew," thus indicating his experiment to be a huge success, thoroughly disproving the antiquated idea about airplanes nosing over when they are landed down-wind, down-hill, cross-furrows, through fences and over ditches.

By Order of the Orderly:

U. KRACKEMUP,
Col. Gen.

Official:

W.E. FIXUM
Maj. Gen. Adj.

Presentation by Lieut. Webster of the D.F.C. followed immediately in the true French fashion. The D.F.C. was, however, in this instance, not the Distinguished Flying Cross, but rather the Defunct Fuel Container - an empty oil can with a good solid chain attached by means of which it might be hung around Lieut. F.....'s neck. The special award was designed by Lieut. West, 61st School Squadron Engineering Officer, who, after flying the B-1 out of the fertilized disproving ground, took special pains to see that proper recognition of Lieut. F.....'s heroism was given. Being a modest chap, Lieut. F..... had only this to say: "I guess I was just lucky - to have this honor." To which all agreed.

Section Dismissed!!

---oOo---

PRESENTATION OF THE CHENEY AWARD

The Cheney Award for the year 1939 was presented to 1st Lieut. Harold L. Neely, Air Corps, on the morning of April 17th, by the Hon. Harry H. Woodring, Secretary of War, in his office. Present at this ceremony were Major General Henry H. Arnold, Chief of the Air Corps; Mrs. Mary L. Schofield and her daughter, Mrs. Ruth Cheney Streeter, donors of this Award; Colonel R.C. Candee and Major James A. Wilson, of the Information Division, Office of the Chief of the Air Corps; Major E.B. Lovett and Captain Wm. C. Futt, of the Public Relations Section of the General Staff; and Major Townsend Griffiss, Aide to the Secretary of War.

The act of heroism which won for Lieut. Neely the Cheney Award was his refusal to desert his disabled airplane when, uncertain as to whether one of his three passengers had carried out the order he had given them to jump with their parachutes, since he saw only

(Continued on Page 21)

V-8449, A.C.

APPOINTMENT OF 2ND LIEUTENANTS, AIR CORPS, REGULAR ARMY

The President recently sent to the Senate the nominations of 83 Air Corps Reserve officers, now on active duty, for appointment as second lieutenants in the Air Corps, Regular Army. These appointments were made as a result of an examination held in February, 1940.

Below is a list of the new appointees, together with their home addresses and the Air Corps stations at which they are serving at present, viz:

Albrook Field, Canal Zone:

Cory, Robert Arnold	Oak Park, Ill.
Mayden, James Daniel	Junction City, Kans.
Weltman, John William	Rawlesburg, W. Va.
Carter, John Henry	Pasadena, Calif.

Barksdale Field, La.:

Crabtree, Martin Perdue	Decatur, Texas
Koster, John Robert	Cincinnati, Ohio
Livingstone, Richmond A.	Fawtucket, R. I.
Paul, Robert Copeland	Watertown, Fla.
Purinton, Wm. Robert	Wichita Falls, Kans.

Bolling Field, D. C.

Stuber, Lovell Swain	Winfield, Kans.
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Borinquen Field, Puerto Rico

Eisenhart, Charles Marion	Culbertson, Neb.
Pancake, Frank Robbins	Staunton, Va.

Duncan Field, Texas

Prossen, Peter Joseph	San Antonio, Texas
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Fort Leavenworth, Kansas

Hughey, Robert Jerome	University City, Mo.
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Hamilton Field, Calif.

Bostrom, Frank Peter	San Antonio, Texas
DuFrane, John Louis, Jr.	Oakland, Calif.
Ezzard, Richard Francis	Winter Garden, Fla.
Itz, Milford Felix	Osage City, Kans.
Keiser, Donald MacKay	McComb, Ohio
Morse, Raymond Steele	Elk City, Okla.
Preston, Joseph James	Elgin, Minn.
Skiles, Duane Haren	Denton, Texas
Tarter, Jerome	Mintonville, Ky.
Wangeman, Herbert Otto	Moorpark, Calif.

Hickam Field, T. H.

Gregory, Charles Edward	Houston, Texas
Holbrook, Thomas Harber	Commerce, Ga.
Simpson, John Gilliland	Chevy Chase, Md.
Wilkins, John Campbell	Hollywood, Calif.
Wilson, Harold Frederick	Los Angeles, Calif.

Kelly Field, Texas

Harding, Frank Burkley	Omaha, Neb.
Merriitt, Ralph LeRoy, Jr.	Sacramento, Calif.
Wilson, Keith Streeter	Bolivar, N. Y.

Langley Field, Va.

Babb, Harold Thaddeus	Dalton, Ga.
Clinkscales, Theodore Ross	Greenville, S. C.
Cook, Earl Brown	Heflin, Ala.
Hand, Sylvan Davis	Columbia, S. C.
McNelly, Fred Wright	Anoka, Minn.
Meyers, Gilbert Louis	Grand Forks, N. D.
Momyer, William Wallace	Seattle, Wash.
Seeburger, Francis F. IV	Crockett, Calif.
Slocumb, Charles D., Jr.	Goldsboro, N. C.
Wheeler, Warren Sanford	Hickory, N. C.

March Field, Calif.:

Carlson, Francis Bernard	Ossining, N. Y.
Cocke, Wm. Alexander, Jr.	Austin, Texas
Cranston, George Echelbary	Winfield, Kans.
Hutchinson, Richard C.	Riverside, Calif.
Maney, John Randolph	So. Minneapolis, Minn.
Marks, Jack Southmayd	Los Angeles, Calif.

Maxwell Field, Ala.

Cross, Walter Winfred
Haile, James Ernest, Jr.
Knowles, Wm. McMillan
Todd, Thomas Marion

Mitchel Field, N. Y.

Busch, Chester Charles
Martin, Bertram Claude
Olson, Abraham Donley
Pomeroy, Don Allen, Jr.
Scheuer, Paul Constantine
Sheffield, Charles Paul
Yurkanis, Paul John

Moffett Field, Calif.

Dunn, Frank Lowry
Feiling, Brunow William
Grossotta, Anthony Vincent
Marett, Samuel Heins
Stewart, Everett Wilson

Nichols Field, P. I.

Alder, Glen Miller
Barnick, Roland John
Fisch, Ted Bernard

Patterson Field, Ohio

Boaz, Wm. Nelson, Jr.
Williams, Adriel Newton

Randolph Field, Texas

Alexander, Donald Martin
Bonar, Frank Elgin
Hammerle, Clarence B., Jr.
Meade, Donald Earl
Mullen, Marcus Alfred
Ola, George Joseph
Woltanski, Thaddeus Lewis

Sacramento Air Depot, Calif.

Dech, Keith Wesley	So. Minneapolis, Minn.
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Santa Maria, Calif.

Whisenand, James F.	Santa Maria, Calif.
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Scott Field, Ill.

Thompson, Milton Elmo	Astoria, Ore.
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Selfridge Field, Mich.

Bowen, Wm. Joseph Alvin	Oak Park, Ill.
Moore, Paul Lehman Glenn	Wichita, Kans.
Sprankle, Kenneth Wayne	West Lafayette, Ind.

Kelly Field, Texas

Martin, Glen Webster	Chicago, Ill.
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Presentation of Cheney Award (From Page 20)

two parachutes had opened below him, and fearing that this third passenger was still an occupant of the Bombing plane, he disregarded his own personal safety and chose to risk a forced landing which, happily, he accomplished without injury to himself.

Lieut. Neely then made the unwelcome discovery that his third passenger had jumped but that he had delayed too long in doing so, leaving insufficient altitude for the parachute to function properly.

The insert on the opposite page shows Secretary Woodring making the presentation of the Cheney Award to Lieut. Neely, with Mrs. Schofield, Mrs. Streeter and General Arnold as witnesses.

The Cheney Award was established in memory of 1st Lieut. Wm. H. Chaney, Air Service, who was killed in an aircraft accident at Foggia, Italy, during the World War.

The following bit of verse was inspired by the crash of an A-12 in the ocean off Manakuli, when the pilot and an enlisted man riding in the rear seat were saved by the efforts of two Boy Scouts who towed them to safety through the treacherous currents that characterize the ocean on the leeward side of Oahu. It was written by Sergeant James Disney of the Headquarters and Headquarters Squadron, 18th Pursuit Group, purely in the spirit of fun, and is not in any way intended to belittle the courageous rescue performed by the two young boys.

The Army Air Corps now can try
Uncharted skies to master,
They know that Boy Scouts will be there
In case of grave disaster.

The pilots need no longer fear
The troubles that pursue them,
For if, by chance, they come to grief,
The Boy Scouts will rescue them.

If engines miss and oil lines clog
Don't pay them too much heed.
A Boy Scout will be close at hand
To do his day's good deed.

So let us give to Daniel Beard
Our gratitude undying,
He'll teach his boys to find a way
To keep our ships a-flying.

Private Ransome W. Doney, a member of the 18th Air Base Squadron, Wheeler Field, T.H., is a living testimonial to an assertion which may be ventured that the pen, if not mightier than the sword, is at least not an incongruous companion. Doney, who was born in Clinton, Iowa, and attended the Clinton High School, has combined writing and fighting since he joined the Marine Corps, July 15, 1927. While serving in Nicaragua, he was awarded the Service Medal for the second Nicaraguan Campaign in 1928. He then served in China from 1932 to 1935 and, in addition to the Good Conduct Medal, was awarded the Yangtze Service Medal. Now a soldier in the Air Corps, Doney has been in the Hawaiian Department since February, 1938, and the two poems published here and the one published in the previous issue of the News Letter, were written since he began his tour of duty at Wheeler Field.

JOIN THE AIR CORPS, LEARN TO FLY

If your life is rather dusky,
And the whole world looks grim,
If the fellows on the corner pass you by,
It is just that you are yearning
For more adventurous learning,
Join the Air Corps, Learn to Fly.

When the cities' traffic rumble
Causes you to fret and grumble,
And you wish for something newer to try,
It is yours just for the taking,
And your time won't be forsaken,
Join the Air Corps, Learn to Fly.

Your emotions will inspire
From the wonders you will see,
As you soar across the clear sky,
Cast your cares and troubles doffing,
Take the new life in the offing,
Join the Air Corps, Learn to Fly.

The classroom there awaits you,
And the shop has plenty of room
For the man who speaks up, saying, "I will try,"
So cause your face to grin up,
And keep your soldier's chin up!
Join the Air Corps, Learn to Fly.

THE BIRD-MEN SING ALOHA

Aloha, sing Aloha,
The happy voices ring,
The bird-men now describe the land
They've viewed from silver wings.

From altitudes we've eyed your shores,
Saw honeymooners play;
Have scrutinized your temples,
Where ancient pious pray.

Fertile fields stretch out below,
And workers daily toil
To reap coveted treasures
That sprout from tropic soil.

Horizons' at the setting sun,
Recall pompous days
When kings devoutly cast their lot
To worship Fele's blaze.

Like pages from an open book,
That flutter in the wind,
Silvery waves relate a tale
They dare not rescind.

Occidental manifest,
Has modernized your lore.
But ne'er can steal the beauties
That from your heavens pour.

Aloha, sing Aloha,
Our voyage we must wend,
But in our future journeys
We'll cling to you, our friend.

---oOo---

THE DODO By Flying Cadet H.A. Smith, 40-G

Before the spreading grin of me,
The upperclassman stands,
He notes the waver of my eye,
And stiffness of my hands.
My chest is in, my stomach out,
My hair a sight to see,
He wonders if they ever will
A flyer make of me.

I drill and drill, - then drill some more;
I "gun" the food for them.
They march me up and down the hall
And begrudge me any "femme."
I put my room in spotless shape,

I wash the bowl with care,
But everytime inspection comes
The dust is always there.

In spite of all these minor things,
I wouldn't change my plane
For any other I have known,
Though perfect on its face,
Just like the rest, I'll play the game.
Whatever it may be,
And hope that graduation day
Finds me in 40-G.

----oOo----

DODOES NOW, BUT -
By Flying Cadet W.V. Taylor, 40-G

At six in the morning we rush to the ramp,
We shiver and freeze in sunshine that's damp.
We "dress right" to orders as fast as we might,
But to our upperclassmen we're never just right.
We take calisthenics like a gym class at camp,
But we never can miss that tour of the ramp.
Then into our rooms to dress for mess call,
Then back on the double, dodoes and all.

At mealtimes we eat with out hearts in our
throats,
Afraid the next move will prove that we're
goats.
Then back to our rooms to dress for inspection,
Which keeps us all day in a state of dejection.
And so through the day and into the night,
We fear everything but our turn for flight.

----oOo----

THE MANEUVERS DOWN SOUTH

First Lieut. Wilbur C. Boyce, Jr., Coast Artillery Corps, recently arrived at Maxwell Field, Ala., for the purpose of installing the information center of the Headquarters Third Army Aircraft Warning Service to be used incident to the large scale Regular Army maneuvers to be conducted in Alabama, Mississippi, Louisiana, Arkansas and western Florida from May 7th to 11th, inclusive.

A building just east of the airdrome's station hospital was made available, and Lieut. Boyce's staff became busily engaged in setting up the activity.

Lieut. Boyce stated that over 3,000 aircraft warning observer stations are to be established in Alabama for the maneuver period. They are to be "spotted" in areas 16 miles square, each of which has been given a name and a number. Where practicable, four observers readily accessible to telephones are to be on duty in each area during the maneuvers. They are to be located as nearly equal distance apart as is possible. These stations are to be in active operation:

May 7 - 8:30 a.m. to 2:30 p.m.

May 8 - 8:30 a.m. to 2:30 p.m.

May 9 - 7:00 a.m. to 10:00 a.m., and 3:00 p.m. to 6:00 p.m.

May 10 - 7:00 a.m. to 10:00 a.m., and 2:00 p.m. to 5:00 p.m.

May 11 - 5:00 a.m. to 8:00 a.m., and 1:00 p.m. to 4:00 p.m.

The general method to be employed by the ob-

servers in reporting "enemy" aircraft during the maneuver period will be: as soon as two or more airplanes in formation have been seen or heard, the observer calls his operator and, when telephone central answers, the observer will say "flash" and give the number of his telephone; a through long distance trunk line will then get the information center at Maxwell Field who will answer "Army;" the observer will then transmit his message which will include his telephone number, time the airplanes were noted, whether they were seen or heard, the number of planes, whether they were of Pursuit, Bombardment, Observation or Attack type, the altitude at which they were flying and the direction of the flight. Observers have been provided with "flash message" forms where they are to record the data transmitted to the information center. Upon receipt of the message at Maxwell Field, the data is evaluated by intelligence officers and appropriate counter action taken against the "invaders."

Colonel Robert W. Collins, Commanding Officer, 4th Coast Artillery District, Fort McPherson, Ga.; Major William Q. Jeffords, Coast Artillery Corps, and Captain Thomas W. Mumford, Coast Artillery Corps, are now touring the 224 counties in Alabama, Mississippi, south eastern Arkansas, Louisiana and western Florida, contacting observers for the maneuver period. All scheduled to complete their mission by April 26th, they were then to report to Maxwell Field for duty with the information center of the Aircraft Warning Service until completion of the problems.

American Legion posts are assisting in establishment of the observation post net. The Southern Bell Telephone Company is also cooperating to the fullest extent.

A total of ten Regular Army officers, 27 Coast Artillery Corps and 25 Signal Corps enlisted men was scheduled to arrive at Maxwell Field for the purpose of operating the information center. Ten long distance trunk lines are to be functioning continually during the period of active operations, from May 7th to 11th, inclusive.

Major Harry L. Vitzthum, Air Corps Tactical School Signal Officer, is coordinating the installation of the information center at Maxwell Field.

Lieut. Boyce also said that a large tent was to be set up at Maxwell Field for the convenience of the public, about May 1st, where information regarding the maneuvers would be available. It is to contain large scale maps showing our own and "enemy" dispositions and other pertinent data regarding the exercises. Trained guides are to be posted to explain items of particular interest.

Over 35,000 officers and enlisted men are to be engaged in the problems, which are the largest ever held in the United States during peace times.

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Effective April 1, 1940, Brig. General Herbert A. Dargue, Wing Commander, whose permanent rank was Lieut. Colonel, was promoted to Colonel; and Lieut. Col. Harry H. Young and Major James M. Gillespie to permanent rank in their respective grades.

TRANSFER OF WEATHER SCHOOLS TO CHANUTE FIELD

Effective June 1, 1940, the instruction of enlisted men of the Air Corps as Weather Observers and Weather Forecasters will be conducted at the Chanute Field Branch of the Air Corps Technical School at Rantoul, Ill.

The Weather Observers' course was originally established at Scott Field, Belleville, Ill., in August, 1939. Twenty Air Corps enlisted men were assigned to each class taking the four months' course. Classes were staggered so as to make it possible for a class to graduate each month. Enlisted men entering these classes are required to possess an elementary knowledge of mathematics and physics.

The Weather Forecasters' School was originally established at Patterson Field, Fairfield, Ohio, in August, 1937, for the purpose of training Weather Forecasters for all Air Corps stations, in order to furnish pilots with accurate and complete weather information and forecasts of weather to be expected aloft. Twenty-five Air Corps enlisted men were detailed for each class taking the six months' course at this School. The educational requirements for entrance are more strict than those for the Weather Observers' course, students being required to possess a more thorough knowledge of mathematics and physics, as well as a knowledge of elementary trigonometry.

With the transfer of these two schools to Chanute Field, the Weather Observers' course will be extended to five months, and the Weather Forecasters' course to nine months. Enlisted men graduating from these courses have an excellent opportunity for advancement in the noncommissioned grades.

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ASSIGNMENT OF COMBAT SQUADRONS TO GROUPS

The War Department recently announced the assignment to Bombardment and Pursuit Groups in Panama and Hawaii of combat squadrons which were activated on February 1, 1940, under the Air Corps Expansion Program.

To the 6th Bombardment Group (Medium), stationed at France Field, Panama Canal Zone, were assigned the 3rd and 74th Bombardment Squadrons, which were activated at France and Albright Fields, respectively. The 43rd Pursuit Squadron (Interceptor), activated at Albright Field, Canal Zone, was assigned to the 16th Pursuit Group (Interceptor), stationed at that field.

In the Hawaiian Department, the 26th Bombardment Squadron (Medium) was assigned to the 11th Bombardment Group (Medium) at Hickam Field, so that now this Group comprises the 14th, 26th and 42nd Bombardment Squadrons. This Group and its three squadrons were all activated at Hickam Field.

The 78th Pursuit Squadron (Interceptor) was the former 26th Attack Squadron, which had been stationed at Luke Field and later at Hickam Field. This new addition to the Pursuit Squadrons of the Army Air Corps was assigned to the 18th Group (Interceptor), stationed at Wheeler Field.

WAR DEPARTMENT SPECIAL ORDERS Changes of Station

To Brooks Field, Texas: Major Don W. Mayhew, Capt. Wm. C. Dolan, 1st Lts. Charles B. Stewart and Norman C. Spencer, Jr.; for duty with the 22nd Observation Squadron.

To Barksdale Field, La.: 1st Lt. Robert D. Capen, from Panama Canal Department; Lieut. Col. Robert G. Breene, from duty as instructor at Command and General Staff School, Fort Leavenworth, Kansas.

To Langley Field, Va.: 1st Lt. Carl T. Goldenberg, from Panama Canal Department.

To Maxwell Field, Ala.: Major Elmer J. Bowling, from Ft. Lewis, Wash., for duty with the faculty of Air Corps Tactical School.

To Middletown Air Depot, Pa.: Lieut. Col. John M. Clark, from San Antonio Air Depot.

To Mitchell Field, N.Y.: 1st Lt. James W. Twaddell, Jr., from Panama Canal Department.

To Panama Canal Department: Capt. Walter W. Gross, from duty with Organized Reserves, 9th Corps Area, San Diego, Calif.; Major Richard W. Gibson, 1st Lts. Paul Burlingame, Jr., from Mitchell Field; 1st Lt. Harry Coursey, from Chanute Field; 2nd Lts. Thomas K. Jampton and Arthur W. Kelland, from March Field.

To Washington, D.C.: Colonel Vincent B. Dixon, Ft. Bragg, N.C.; Major Dache M. Reeves, Langley Field, Va.; Capt. Turner A. Sims, Jr., Wright Field, O., and 1st Lt. Edwin S. Perrin, Wright Field, for duty as students at the Army War College, reporting not later than September 10, 1940. - Lieut. Col. Ray A. Dunn, from Middletown Air Depot, for duty in Office of the Chief of the Air Corps.

To Materiel Division, Wright Field, O.: Capt. Alfred R. Maxwell, from Mass. Institute of Technology, Cambridge, Mass.; 1st Lts. Wm. D. Eckert and Thetus C. Odom, from Harvard School of Business Administration, Cambridge, Mass.; Edward J. Hale, from University of Michigan, Ann Arbor, Mich.; Frank B. Moyers, from California Institute of Technology, Pasadena, Calif.

To London, Eng.: Lieut. Col. Grandison Gardner and Major Franklin O. Carroll, from Wright Field, for duty as Assistant Military Attaches for Air.

To Randolph Field, Texas: Major Leonard H. Rodieck, from duty as District Supervisor for Air Corps Training Center, Central District, East St. Louis, Ill.; Lieut. Col. Ralph B. Walker, from Panama Canal Department.

To Tulsa, Okla.: Capt. Edwin M. Day, for duty as Supervisor, Spartan School of Aeronautics, from duty with Air Corps Training Detachment, Cal-Aero Corp., Glendale, Calif.

Promotions

Lt. Col. Rosenham Beam from temporary to permanent grade, effective March 1, 1940.

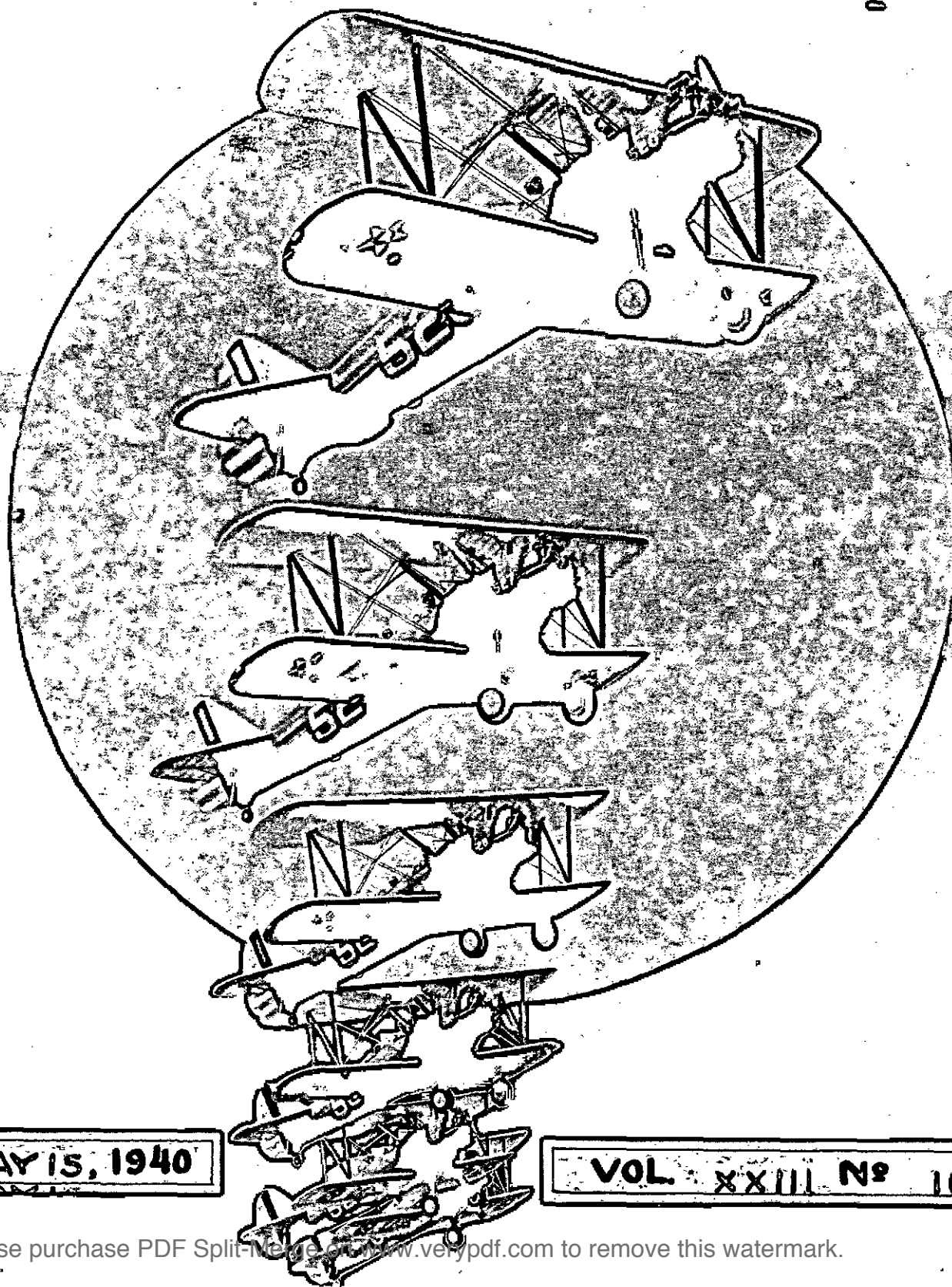
Retirements

1st Lt. Jewell B. Shields, March 31, 1940, for disability incident to the service.

Tech. Sgt. Edward Ingle, 27th Reconnaissance Squadron, Boringuen Field, Puerto Rico, April 30, 1940.

Lieut. Col. Floyd E. Galloway assigned to Philippines from student at Army War College.

AIRCORPS LETTER



MAY 15, 1940

VOL. XXIII No 10

The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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AMERICA'S "WEST POINT OF THE AIR"

By Flying Cadet M.J. Anderson
Randolph Field, Texas

The early transition stage of converting an ordinary civilian into an embryo pilot was over, and the boundary of Texas flashed by as we headed for our new home and the second and basic stage in the active nine months' training program. Hearts beat fast and expectations were high as we rounded the last curve and topped the last hill and saw below us, nestled in the rolling hills, the object of many a dream - Randolph Field, "THE WEST POINT OF THE AIR."

It is difficult to express the feelings of the new men as they arrive at Randolph from the nine primary schools scattered all over the United States because, becoming a part of the greatest training center in the world is the realization of an ambition which, so to speak, has prepared him in mind and body to comply with all the rigid training and to establish the proper attitudes which is conducive to the military precision through which he must pass.

Thus, before the cadet enters the gates of Randolph, he is conscious of the great responsibility that is his and that he is an important unit in this expansion program which shall assure to America that its flag shall always signify a rule by a democratic people.

It is, indeed, gratifying to the new cadet to learn that Randolph Field does not fall down on one's expectations, however high they may be. This Training Center offers to all alike the many things which go to make up the traditions of the Air Service and encourages the new man to assume some of the spirit of aviation which is the very soul of the Air Corps.

Through slight adjustment of his personal opinions and accustomed habits, the Flying Cadet enters an atmosphere which in itself is conducive to a rigid personal discipline and accomplishment. It is not as if the new man had to make over his own way of living, but rather that he has the supervision of graduate officers who impart to him, through a carefully planned schedule, those characteristics which will help to estab-

lish in him the basic rudiments upon which will be built the futures of the young officers of tomorrow.

The West Point of the Air surely lives up to its well earned name and opens new avenues of progress to all the Flying Cadets, but at the same time it requires that every man whose ambitions lead him this way contribute his best and find an active part to play while he is in this rigid training.

It is because of this expectation that the military personnel offer to the new men a self-controlled battalion, through whose activities they are better able to become a part of army life, and also develop the self-confidence that is an asset to the young officer in training. In this capacity the new men find a strict adherence to the honor code which builds up the morale of the men and a friendly spirit of cooperation which enables them to forget personal grievances and differences and to work together as a whole, thus acquiring more training through a single concentrated effort.

To those who are strangers to the workings of this great military plant, the rapidity and the thoroughness of the training, as well as its scope, is astounding and yet it is not miraculous when one considers that this is merely a smooth running machine which incorporates all the elements essential to the top functioning of the individual. His inner self is so developed that the spirit of flying becomes a major part of his existence. His mind is trained to notice the details and to react with rapidity but with sane judgment. The physical care of the men is kept at its highest point by the regularity of the routine and the special athletic competition. It is, indeed, true that during this period the individual reaches a high peak of perfection. Fortunate, indeed, is the cadet who serves his apprenticeship at "THE WEST POINT OF THE AIR."

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"THE HAND THAT ROCKS THE CRADLE."
By the Randolph Field Correspondent

At one time or another most of us have seen a baby being tenderly guarded by its mother. We have admired the baby's blue eyes, golden hair and rosy cheeks, but the care-worn face, the tired eyes or wrinkled brow of the mother probably went unnoticed. Likewise, most of us have witnessed an instrument landing with its precise approach, smooth glide and remarkable landing without so much as a thought to those who have made it possible.

The entire Instrument Department of the San Antonio Air Depot visited Randolph Field recently, and most of these men who probably could set up a bank and turn indicator blindfolded witnessed for the first time in their lives an instrument landing. Lieutenant T.J. Cunningham made the demonstration in a BT-9 airplane.

Families of these men came along, too, and "Mamma," probably for the first time in her life, understood the reason why "Pop" continually talked shop when he came home at night. She knew he sat on a stool in front of a bench all day long, and on pay night handed her the results of his efforts enclosed in an envelope, but "Mom" knows now that "her man," regardless of his Civil Service rating, plays a vitally important part in the mission of an Army airplane.

You will find plenty of gray heads in the instrument Department and eyes forced into early manhood by thick optical lenses, but those wrinkled, gnarled hands have the delicate touch of a surgeon and the brain that has been tortured by home problems, pay, age, and promotion has a sense of responsibility far beyond the comprehension of those who fly these instruments so matter-of-factly.

Without deprecating the miracles performed by our pilots who suddenly find themselves forced to "go on instruments," we doff our cap to these men behind the line, the instrument mechanics.

---oOo---

NON STOP FLIGHT FROM DENVER TO MIAMI

Lowry Field officers recently made the first recorded non-stop flight from Denver, Colo., to Miami, Fla.

On Sunday, April 7th, at 6:52 p.m., a B-18 Bomber, piloted by Major Charles G. Percy and Lieut. Wiley D. Ganey, took off from the mile-long runway of Municipal Airport and headed south. Lowry Field's Operations Office received a radio message from Major Percy on

Monday morning, stating that the plane had landed at Miami at 5:30 Mountain Standard Time. The fact that it was an all night flight made it unusual.

The trip was a routine training flight. Accompanying personnel were 10 Lieuts. James O. Reed, Richard P. Schumacher, Charles H. Leitner, Jr., William F. Day, Sergeant Philip Gangemi (crew chief) and Pvt. Layton St. Germain (radio operator).

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ARMY DAY AT LOWRY FIELD

Despite a driving rain that fell on Denver throughout the day, Colonel Jacob H. Rudolph, Commanding Officer, threw open the gates of Lowry Field to those of the public who wished to inspect the Technical School on Army Day.

A 600-foot ceiling, with icing conditions, prevented a scheduled flight, but students of the 2nd and 3rd School Squadrons marched in a parade through downtown Denver which was witnessed by an enthusiastic crowd that ignored the wet weather.

Ankle-deep adobe mud over the most of unpaved Lowry Field did not deter hundreds of visitors, who disregarded comfort to satisfy their curiosity about the Air Corps and its Technical School.

Colonel Rudolph cooperated with their local agencies by releasing typical exhibits of photographs and instructive equipment for display in Denver store windows.

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NEW TYPE OF TRAINING AIRPLANE

The latest U.S. Army Air Corps primary training airplane, known as the PT-19, constructed by the Fairchild Aviation Corporation, was recently delivered at the Air Corps Materiel Division, Wright Field, Dayton, Ohio. This is a low-wing monoplane of welded steel tubular fuselage construction. The wing is full cantilever type, constructed of wood with plywood covering. The airplane has a fixed landing gear and an open cockpit. Provisions are made for a crew of two.

The PT-19 is powered with a single six-cylinder Ranger engine. The propeller is two-bladed and has a diameter of seven feet. The approximate wingspan is 36 feet; length, 27 feet 8 inches, and height, 93 inches. The approximate gross weight of the airplane with normal load is 2450 pounds. The airplane carries no armament. The conventional flight instruments form its equipment.

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WIND SIMULATING ATTACHMENT FOR LINK TRAINER
By Major C. J. Crane, Materiel Division

ensig 311
mistake

Pilots of the Wright Field Flying Branch have been enjoying the vagaries of simulated winds as applied to Link Trainer problems of various classes and kinds.

A Wintroducer, designed by a Wright Field officer, has been attached to the Link Trainer and found to be both instructive and useful in conducting classes in navigation and instrument landing problems in which the wind is a factor. This Wintroducer is extremely simple in construction and can be applied to any Link Trainer in five minutes. It gives very complete information regarding instantaneous values of air speed and heading, ground speed and track, and wind speed and direction. It also gives a complete record of the path of the airplane over the ground, its path in the atmosphere, and the path that the wind has taken over the ground. The three complete records, or

paths, are traced on identical maps after the flight has been completed. These maps may be superimposed for inspection of the integrated vectors, or they may simply be examined side by side to show the effects of wind on the flight of an airplane.

This simple Wintroducer, upon which any value of wind speed and direction can be applied, should be an effective device since its cost will probably be low and it can be applied to the conventional Link Trainers in the service without modification to them except the loosening and tightening of two screws which hold the handle of the course recorder. The value of this device should be quite high, not only in teaching the fundamental principles of navigation, interception problems, and normal blind flight, but also in enabling analysis of special problems connected with instrument flying and radio navigation.

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LIGHTER THAN AIR UNIT PARTICIPATES IN MANEUVERS

By the News Letter Correspondent

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The First Balloon Squadron, stationed at Fort Sill, Okla., is now on duty with the 9th Corps in East Texas, in preparation for the Third Army Maneuver which was scheduled to begin on May 9th. The Squadron was divided into two echelons; the 1st (Motor) echelon leaving Fort Sill, Okla., on Tuesday, April 23rd, and the 2nd, or rear echelon, leaving Fort Sill on Friday, April 26th, and traveling by train. The 1st echelon was the first unit of Corps Troops to arrive in the maneuver area, and the 2nd echelon was the last unit to arrive. The 1st (Motor) echelon, as stated above, left Fort Sill at 5:30 a.m., on April 23rd, and Fate smiled on us, favoring us with a strong north wind. The drivers of the trucks were really forced to put their feet down on the accelerators, and even then, the balloon was forced to circle over the convoy in figure-eights to keep from losing the convoy. The convoy arrived at Hensley Field at 1:00 p.m., and some farmer in Texas is wondering how long it has been raining one hundred foot lengths of manila-yacht rope. Lieut. Hamlett, who was piloting the balloon at the time of the "rain," was attempting to adjust the seat in the cockpit and accidentally pulled the drag-rope release. Needless to say, Lieut. Hamlett has paid dearly for his mistake by taking all of the wisecracks with a big smile.

On Wednesday, April 24th, the outfit

was up bright and early in preparation for the second leg of our journey, leaving Hensley Field at 5:30 a.m. The second afternoon was spent driving and flying through showers, but the tailwind held with us all the way. We arrived at our Motor Control Point at Zavalla at 3:30 p.m., where we were met by Captain J.T. Dalbey, the G-2 of the Corps, and Captain John McCormick, the Corps Air Officer, who ordered us on into our bivouac area near Jasper.

Early the next morning, April 25th, Captain Dalbey was taken up for a reconnaissance flight over the maneuver area, with Lieut. Hamlett as pilot. The next morning, Captain P.B. Nelson, Assistant G-3 of the Corps, was taken on a flight to inspect the area and to determine how effective the camouflage was on concealment of the troops. Upon returning, Captain Nelson turned in the report that the old Fightin' First (First Balloon Squadron) was the only unit in the entire corps that was perfectly concealed. (Years of practice in hiding out when the maneuvering sergeant was looking for a detail was probably responsible for this perfect concealment).

On the morning of April 29th, the Corps requested that the Squadron perform a Reconnaissance Control Flight to determine the front lines. The flight was made by 1st Lieut. Leo W. Cather, Air Corps, as pilot, and 1st Lieut.

Roscoe G. Conklin, Air Reserve, as passenger, and no little concern was felt over their safety before they returned. Hard rains, accompanied by high winds, lasted throughout the morning. After battling this kind of weather for three hours, Lieuts. Cather and Conklin completed their mission and the balloon was returned to the base. The balloon was landed in a driving rainstorm, requiring no little skill on the part of Lieut. Cather to set it down in the small landing field completely encircled by tall pine trees, and when we say tall, we mean TALL. If there is any doubt about this matter, just ask any of the pilots.

We are fortunate to have with us on this maneuver four Reserve officers - Captains M.H. Cannon, of Nogales, Ariz.; A.R. Weigel, of Houston, Texas; J.K. Coughlin, of New Hyde Park, L.I., New York, and 1st Lieut. Roscoe G. Conklin, of Little Rock, Ark. This is the first opportunity Captain Weigel and Lieut. Conklin have had to be on active duty with a Balloon Squadron since the World War. Captain Coughlin, an Airship Pilot, as well as a Balloon Observer, has not been "checked out" on the Motorized Balloon yet, but it is planned to have him pilot the balloon before the maneuver is over. Captain Cannon has been with us several times before, both at Fort Sill and in Michigan in 1936, and has already passed his check flight for piloting the balloon.

The first phase of the maneuver was over on Saturday morning, and on the afternoon of that day Major General Kreuger, Commanding General of the 9th Corps, called a critique and stated that this particular part of the country and this time of the year was especially chosen to give the troops of this corps a "mud test" on the maneuver. The first week of the maneuver saw enough mud and rain to test the hardest "old-timer," as well as the newer type of vehicles with which the Army is rapidly being equipped. In addition to their other functions, members of the balloon squadron are gradually becoming trained in the art of road building. As we do much of our work with the 77th Field Artillery, we usually follow their convoy, and woe is the dirt road that the 77th has used, trailing their heavy 155 mm. howitzers.

The forward or tactical echelon of the Squadron consists of 62 men and is commanded by Captain Gerald G. Johnston. The rear or base echelon is commanded by Major W.C. Farnum, Commanding Officer of the 1st Balloon Squadron. Major Farnum goes back and forth from the base to the forward echelon, usually ferrying the balloon up to the forward

echelon, but sometimes making the trip in his reconnaissance car. He is always on the alert, making sure that his officers and men are being well taken care of, and wasting no effort to aid them. The primary purpose of the tactical echelon is to do corps artillery adjustment as well as corps surveillance, and the balloon has been doing its work with the 77th Field Artillery, and the 82nd Field Artillery.

At this writing it is the lull before the storm. We have had a rest since Saturday, and many of the men were granted passes over the week end. Several of the Squadron fishermen went to Port Arthur and returned with two small crabs and the report that storm warnings were flying on the coast. The "war" will start again on Tuesday, and with bad weather predicted, everything should be in readiness to make hardened "field-soldiers" out of the entire lot.

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VIEWING THE ARMY IN A NEW LIGHT By Corp. E.L. Tibbs, A.C.

I believe that the thought which impressed me the most was the simplicity and naturalness of the situation. Officers had heretofore seemed to be a very distinct class from the enlisted men, being rather discreet about their aims and desires in their chosen profession. It seemed that they had an assured future and would rise in rank and pay without a great deal of personal application toward that end. However, all this was brought to my attention in a very different light. While performing my routine duties this morning, the office was quite suddenly filled with exclamations of high glee and enthusiastic comments. All around were senior and junior officers extending and receiving congratulations brought about by the appointment of several Air Reserve officers to the Air Corps, Regular Army. The pleasantries of the situation became contagious when I realized that these men were in the Army for the same purpose that we were here. They had put their shoulders to the wheel and assumed responsibilities that had to be observed and carried on through each succeeding promotion. They had to be willing to study and put forth their best in order to be given the higher responsibility and trust which were component with their ascendancy in rank. I am glad that this was brought home to me, because the Army is more of an institution than a form of living, and, while we may be progressing in somewhat different paths, we are able to share the personal achievement of the individual and mark his progress along the lines of opportunity in "This Man's Army."

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AIR CORPS ACTIVITIES IN PANAMA CANAL ZONE

The entire personnel of Albrook Field turned out on April 18th for an administrative inspection by Major General Daniel Van Voorhis, commanding the Panama Canal Department, and members of his staff.

In the reviewing stand, as guests of the Department Commander, were several visiting Costa Rican officers, including Colonels Manuel A. Coto, Abelardo Brenes, Victor Rasabal, Maneul Rodriguez, Luis Valenzuela and Emilio Ramirez. They were accompanied by Colonel J.B. Pate, Military Attache from the United States at San Jose, Costa Rica.

The review started with a salute to General Van Voorhis as he entered the post with his staff, and continued with a ground review in which every officer and enlisted man participated. General Van Voorhis seemed well pleased with the manner in which Air Corps troops could do infantry drill.

Immediately following the ground review, all available planes of the 16th and 37th Pursuit Groups presented an aerial review, following which General Van Voorhis and his staff inspected all organizations, departments and activities.

Several Albrook Field officers and enlisted men made a trip recently to Guatemala City for the purpose of navigation training. The pilot of the airplane was Major Milo N. Clark, Base Engineering Officer, while the co-pilot was 1st Lieut. Nelson P. Jackson, Commanding the Headquarters Squadron, 19th Wing. Captains Lloyd E. Griffis, Medical Corps, and O.J. Ogren, Dental Corps, were the other officers on the trip. The enlisted personnel included Staff Sgt. Herbert W. Carr; Sgt. Vincent W. Zekas, engineer, and Pvt. 1st Class Vernon F. Scott, radio operator.

The trip started on April 23rd and ended on April 26th. Both the outbound and return trips were made via San Jose, Costa Rica, and Managua, Nicaragua.

Commenting on the trip on his return, Major Clark remarked that it was impossible to see anything because of haze caused by forest fires which are prevalent in Central America at this time of the year.

Six officers of the Costa Rican Army, accompanied by Colonel J.B. Pate, Military Attache to Costa Rica, recently paid a visit to the Panama Canal Department. They were brought to Albrook Field by two B-18's from France Field. After several days on the Isthmus, during which they inspected various Army

functions, there were returned in two B-18's from the 74th Bombardment Squadron, Albrook Field, piloted by Colonel A.R. Gilkeson, commanding Albrook Field; Major Arthur L. Bump, commanding the 16th Pursuit Group; Captain Russell E. Randall, commanding the 37th Group, and 1st Lieut. Robert D. Gapen, commanding the 28th Pursuit Squadron.

Conditions reversed themselves recently at Albrook Field and, instead of the ladies watching their husbands take off on a flight, it was the husbands watching their wives take to the air.

The occasion for this reversal was a visit to Albrook Field of Pan American Airways' new stratosphere plane, "The Flying Cloud."

Pan American uses the Albrook Field Airdrome and has an office located here. When the plane arrived, more than thirty ladies of the post were invited to take a short "hop." Several officers, including Brigadier General Herbert A. Dargue, Commanding the 19th Wing, also made the flight.

The new "Flying Cloud" is a four-motored strato-plane. Built by Boeing, it has a wing span of 107 feet, 3 inches, and has a cruising radius of 2,000 miles. It is credited with a top speed of 247 miles per hour and a cruising speed of 215 miles per hour.

This flight for the Albrook Field guests took them over Taboga Island, the Miraflores Locks and several other points of interest.

Three tents still form the office of the Commanding Officer of the 16th Pursuit Group, and house the office of the Sergeant Major and the personnel section. Everyone in the Group is becoming accustomed to the strange situation and regard the tents as the "proper headquarters of the Group."

NEW PHOTO SHIP ARRIVES AT LOWRY FIELD

A sleek new Beechcraft airplane, piloted by Lieut. David W. Hutchinson, with Staff Sgt. Wm. Kavanaugh as crew chief, recently arrived at Lowry Field, Denver, Colo. The new ship, powered with two 375 h.p. Pratt & Whitney engines, has been specifically designated by the Chief of the Air Corps for photographic purposes only. It is designed for oblique and vertical photography, has ample space for efficient operation of cameras, apertures on sides and top.

This new airplane is a snappy addition to the Lowry Field flying equipment.

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HEROIC RESCUE BY STAFF SGT. F.E. MILLER

A mid-day plunge in the waters of Kawela Bay, on the northern shores of Oahu Island, on March 24th, by four non-commissioned officers from Hickam Field and a guest from the Navy Destroyer S.S. DEWEY, resulted in a near disaster and a recommendation for the Soldier's Medal.

Having decided to conclude their swimming party, it was suddenly discovered that one of the members was missing, about which time Staff Sergeant Luther "Tom" Thompson was heard crying out for help before sinking for the third time to the ocean floor, some ten or fifteen feet down. The guest from the Navy, Chief Petty Officer Henry T. Schaefer, dove to Thompson's rescue. The latter, however, clutched the rocks of the sea floor in a "death grip," and did not let go until Staff Sergeant Frederick E. Miller, of the 17th Air Base Squadron, Hickam Field, T.H., managed to free him and haul him to shore, where the rest of the party immediately gave first aid. After over an hour's work, they revived Thompson and happily returned to Hickam Field, where they passed off the event as a mere incident.

Others in the heroic rescue scene were Sergeant L.W. Diehl, of the 50th Reconnaissance Squadron, and Sergeant T.F. Madis, of the 26th Bombardment Squadron.

"Staff Sergeant Frederick E. Miller, the recipient of the recommendation," declares the News Letter Correspondent, "well merits the Soldier's Medal for, after the valiant and successful struggle, he was himself near the point of complete exhaustion."

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GUNNERY PRACTICE BY PURSUITERS IN HAWAII

In less than five months, the 19th Pursuit Squadron (Int.), commanded by Captain Roger M. Ramey, has been encamped at Bellows Field, on the leeward side of Oahu, no less than three times for concentrated gunnery training. Arriving on the 11th of March for the third time since last October, the Squadron is off to a flying start on the training program.

With the constant arrival of new pilots and the departure of others, it is little wonder that the 19th is carrying out these training sessions in such close order. The nature of the field itself, nestled at the base of a wall of mountains which create tricky air currents, requires a maximum of skill and care from the pilots landing their planes on the 2200 feet landing ramp. It is no uncommon sight to see civilians parked along the highway nearby watching the mass gunnery performances by

two, three, four and five-ship teams. During each of the periods in camp, the pilots of the 19th Squadron, headed by Captain Ramey, have fired at an average of from eight to twelve thousand rounds per day, making a total of close to 110,000 rounds of .30 and .50 caliber ammunition used in each of the two training programs.

The most noticeable feature of the camp, and the one most appreciated by all of the personnel of the Squadron, is the smoothness of operations from start to finish. From the easily complied with schedule made out by 1st Lieut. William S. Steele, down to the "coffee and" time at 9:30, there is no hitch in the entire program.

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THE ERUPTION OF MAUNA LOA

Word was received at Hickam Field, T.H., on Sunday night, April 7th, that Mauna Loa had erupted, and by 3:00 a.m. General Walter H. Frank, Colonel Rosenham Beam, accompanied by two other planes, had taken off to view the cataclysm. Some very fine color movies were obtained. Later, press representatives were taken to view the eruption, and all were impressed with the sight.

Hawaii's volcanos are unique in the world, in that they are gentle in their displays and are the only ones to which people rush to see when erupting instead of fleeing from them in terror of their lives.

Three planes from the 31st Bombardment Squadron (M) were part of a massed flight over Mauna Loa, the active volcano on the Island of Hawaii, the Big Island. That it was a remarkable flight was substantiated by the following remark of a passenger: "The picture of those silver ships sliding through the red glow over Mauna Loa at sunset, the fumes and the heat from molten lava below will be one memory time will never dim."

Another adverturous flight was over without fuss - all in a day's work of a pilot.

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ENLISTMENTS IN SIXTH CORPS AREA

Chanute Field was second in the Sixth Corps Area for enlistments and reenlistments during April, with a total of 76, preceded only by Selfridge Field, Mich., which led the field with a total of 82.

Of 78 discharges at Chanute Field for all causes, 72 men reenlisted to fill their own existing vacancies. Of the total number discharged, only three men failed to reenlist, giving Chanute Field a total of 96% reenlistments.

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DEVELOPMENTS IN GLUES AND ADHESIVES FOR WOOD IN AIRCRAFT MEMBERS
By F.B. Fuller, Materiel Division

Before the World War, a glue or adhesive was considered or used only for the purpose of holding together pieces of wood which were not necessarily severely stressed, such as in furniture and veneering. Joints that actually carried stresses, such as bridge and flooring members, as well as roofing timbers, were bolted or nailed together. The glue joints were not permanent, if exposed to the weather, and in aircraft construction such methods as bolting and nailing resulted in the addition of considerable extra weight as well as design allowance for holes.

The period of the World War, which saw the rapid development of aircraft, brought forth the need and desire for glues that would develop high strength in joints and that were permanent against moisture and outdoor exposure. Hide glue (commonly called hot, animal, bone, and hoof glue), which was the old furniture manufacturers' aid, developed very strong joints; so strong, in fact, that when properly prepared, they parted in the wood and not the glue. This glue, however, was hygroscopic. Joints lost their strength, even disintegrated, very rapidly when exposed to unusual moisture and weather conditions.

Hide or hot glue is a gelatinous or jelly-like product obtained by cooking the hides and bones of animals then drying and grinding them into flakes or powder. The gelatinous substance is somewhat similar to that used for jelly products, but not as thoroughly refined or cleaned. The glue is made usable by mixing with water and heating to approximately 150 deg. F. until the flakes or powder are all dissolved. The glue solution must then be applied hot to warm wood to prevent chilling. The hardening occurs mainly by cooling and by evaporation of the water at normal temperatures.

The good strength quality of this glue is evidenced by the fact that it was satisfactorily used in wooden propeller construction, and is still used for such structures in small commercial planes. However, it was necessary to protect the joints thoroughly against moisture, and the technique of application was such that it could not be readily applied to other wooden structural members. Thus the field was open for types of glues that would be waterproof and retain permanency of joint. There were finally developed, during this period, two glues that, while not waterproof, had a very high degree of water resistance - casein and blood al-

bumen. Of the two, the blood albumen glue has the higher water resistance qualifications.

Casein glue is a dry powder material containing casein - the solid, thick, material that is found in naturally soured milk or that may be precipitated from sweet milk by an acid. Lime or some other ingredient is added to give water resistance. This glue is easily mixed, requiring only the addition of cold water. The glue mixtures "set-up" under normal temperatures without requiring the action of heat.

The blood albumen glue, made from the blood of animals, is mixed with water, but requires heat for hardening. Consequently, it has been limited to use in plywood construction, whereas the casein glue was used in plywood as well as in joints of wooden aircraft members, splicing and laminating of spars and longerons, and gluing of truss ribs. It is at present employed extensively for original construction as well as for the repair of wooden members.

As stated above, however, casein and blood albumen glues are not waterproof, the former being gradually attacked and weakened considerably more than the latter when exposed to continued moisture effects. Since they are protein substances, both are subject to attack by organisms such as molds and fungi.

Within recent years the remarkable developments in synthetic resins, or commonly called plastics, have brought forth waterproof adhesives. The common advertisement of Air + Coal + Water = Plastic can be equally applied to the new resinous adhesives for wood. These are not only waterproof, but vermin proof, mold proof, and fungus proof. They have very good strength characteristics under both wet and dry conditions.

The synthetic resinous adhesives or plastics may be divided into two groups - thermosetting and thermoplastic. The former type undergoes a permanent chemical change under the action of heat or catalytic agents which renders them insoluble and also unchangeable under moderate temperatures. The thermoplastic type requires heat to soften the glue but does not undergo a permanent chemical change; thus it may be resoftened or reformed under moderate heat conditions. Although the field of "plastic type" glues is subject to rapid developments and changes at present, yet there are several that are in use in aircraft, and in the building industry, especially for outside expos-

ure.

Among the thermosetting types which, by the way, form the largest and most important group, are the phenol-formaldehyde and urea-formaldehyde adhesives. The former, commonly known as Bakelite but called also under other trade names, is the oldest in development. It consists essentially of the reaction product of phenol materials (carbolic acid) and formaldehyde. The urea type consists of urea (nitrogenous materials) and formaldehyde. Both are produced chemically.

The phenolic and urea-formaldehyde types are both available in liquid or powdered form. The former is more generally procured in the form of thin sheets which are closely controlled as to uniformity in thickness. In the majority of applications, these adhesives are set-up or hardened by the application of heat of approximately 300 deg. F. under pressures not great enough to injure the wood. Consequently they are limited mainly to plywood or to structural parts that can be fabricated under heated presses.

Lately there have appeared solution and powdered forms of the phenolic and urea-formaldehyde glues to which may be added a hardener (catalyst) that will produce the reaction at the temperatures normally found in industrial shops. The time of setting-up depends on the amount of hardener added. These cold-setting types of thermosetting resinous adhesives have a place in repair work as well as in original fabrication.

Very thin layers of wood may also be rendered quite waterproof since these adhesives penetrate into the wood. This also results in reduced dimensional changes which normally are serious factors in normal wood exposed to moisture changes. Although the phenol and urea-formaldehyde bonds are waterproof, the latter is affected by hot water. Failure in joints, exposed to moisture and other deteriorating agencies, occurs in the wood, not in the glue.

The second group, thermo-plastic resins, are limited in use as adhesives for wood. The material is in the form of thin sheets which is softened under the action of heat at about 250 deg. F. and somewhat penetrates the wood. When the product cools, the adhesive hardens, forming the bond. This adhesive softens again if heat is applied, and thus the cycle goes - heating to soften, cooling to harden. Certain fabricated structures, bonded with adhesives of this type, may be reshaped by reheating until the adhesive is softened and then held in a press until cooled and hardened. The joints are not affected by

water and molds.

There are several factors relative to plastic adhesives that are important. The effects of storage upon the various ingredients and of long exposure of joints to severe climatic variations have not been thoroughly studied, due to the limited time that they have been available and to the rapid changes constantly occurring in the products.

The field of development of the synthetic resin glues offers such wide possibilities that it is difficult to predict the future trend. Suffice it to say that the era of a waterproof and mold proof glue has arrived. Its permanency, while much greater than that of the old water resistance glues under comparable conditions, has yet to be proved over a long period of time.

MERCY MISSION PERFORMED IN FAST TIME

Within four hours from the time the request was received, Randolph Field's aerial ambulance flew 250 miles to Beaumont, Texas, picked up an injured soldier and returned him to San Antonio for hospitalization.

A long distance call was received from the Third Army maneuver area at one o'clock, telling of a motor accident in which Pvt. Joseph P. McCall of the 23rd Infantry, was injured, and requesting an ambulance plane to transport the patient from Beaumont to San Antonio for hospitalization. Captain Walter E. Todd, pilot, with Lieut. C. F. Tieman, co-pilot, and Lieut. Colonel Neely C. Mashburn, Medical Corps, took off in the converted B-18 within twenty minutes after the receipt of the call.

Exactly four hours after the call was received, the 500-mile round trip had been completed and the injured man was on his way from Randolph Field to the Station Hospital, Fort Sam Houston, for treatment.

NEW CONSTRUCTION AND REPAIR AT RANDOLPH

Construction at Randolph Field, totaling more than \$80,000, was recently announced. A WPA project for about \$53,000 was approved for the erection of several one-story hangar lean-tos. Work is already under way on this construction. The Quartermaster General has advised Major F. D. Shawn, Post Quartermaster, that an additional sum of \$34,878 has been allocated for rehabilitation and repair of the gas service lines in several sections of the post.

MORE ENLISTED SPECIALISTS FOR AIR CORPS

On May 3, 1940, 135 enlisted men of the Army Air Corps and eight attached students of the National Guard Air Reserve were graduated from the Chanute Field Branch of the Air Corps Technical School. These students were members of the enlarged classes of various courses as provided for by the Air Corps Expansion Program.

During the early part of March, 1940, the Department of Mechanics occupied the new Hangar and School Annex No. 1. Readily to appreciate the immense facilities of this Hangar, one must devote a few hours' time to a tour of the complete facilities. The airplane mechanics course increased their classes to 200 men at the time, with 100 men beginning instruction each two weeks in the new School facilities and the remaining 100 beginning instruction in the old area. This schedule will be maintained until such time as a maximum of 1500 students in the new area and 1200 students in the old School facilities has been reached.

The Department of Communications is also keeping abreast of the Air Corps Technical School, Chanute Field Branch, expansion program. This Department moved to the new Hangar and School Annex No. 2 during the latter part of April, and is likewise making full use of both the new and the old facilities.

The following number of students were graduated on May 3, 1940, from courses and stations, as indicated below:

Fields	ES	PS	PR	RR&O	CS	IS	AM
Ark. Nat. Gd.	-	-	-	-	-	1	-
Barksdale	5	-	2	2	1	2	-
Bolling	2	1	-	3	2	-	-
Chanute	-	-	-	7	-	-	-
Brooks	-	-	-	1	-	-	-
Hamilton	2	1	2	7	-	1	-
Kelly	3	-	3	-	-	4	-
Langley	2	2	2	8	-	2	-
Lowry	1	2	1	2	2	1	-
March	3	2	1	11	1	3	-
Maxwell	-	4	-	-	1	7	-
Mass. Nat. Gd.	-	-	-	-	-	1	-
Minn. Nat. Gd.	-	-	-	-	-	1	-
Mitchel	2	-	1	2	-	1	-
Mo. Nat. Gd.	-	-	-	-	-	-	1
Moffett	-	1	-	4	-	-	-
N. J. Nat. Gd.	-	-	-	-	-	-	1
Patterson	-	-	2	-	-	3	-
Phil. Army AC	-	-	-	-	-	1	-
Penna. N. G.	-	-	-	-	-	-	1
Randolph	-	-	-	1	-	-	-
Scott	-	-	-	1	-	-	-
Selfridge	1	1	1	1	-	1	-
Tenn. Nat. Gd.	-	-	-	-	-	-	1
Stewart	-	-	-	1	-	-	-
Totals	20	14	15	51	9	29	4

Fields	ES	PS	PR	RR&O	CS	IS	AM
Brought fwd	20	14	15	51	9	29	4
Wash. Nat. Gd.	-	-	-	-	-	-	1
Total	20	14	15	51	9	29	5

Key:

ES - Electrical Specialist
 PS - Propeller Specialist
 PR - Parachute Rigger
 RR&O - Radio Repairer and Operator
 CS - Carburetor Specialist
 IS - Instrument Specialist
 AM - Airplane Mechanic

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NEW BARRACKS FOR ENLISTED STUDENTS

Air Corps enlisted men of the Training Detachment at Glendale, Calif., who are learning to be Air Corps mechanics at the Curtiss-Wright Technical Institute, expect to be moved into their luxurious new barracks before the end of May.

The new \$20,000 building being erected for the men by Curtiss-Wright Tech will have individual rooms for each man, complete with bed and wardrobe and 750 cubic feet of air space per man. Insulated walls insure maximum temperature control in all weather, and the interior is finished in the light green coloring recently adopted by designers of luxurious ocean liners and fashionable hotels because of its beneficial effect on eyesight.

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NEW JERSEY N. G. AIRMEN INTENSIFY TRAINING

The 119th Observation Squadron, Air Corps, New Jersey National Guard, took delivery of a BC-1A airplane in March, same being ferried in from the North American Aviation Factory by Captain Clinton W. Davies, Air Corps, the Unit Instructor.

Sunday drills, over and above the regularly scheduled Thursday drills, are being held twice monthly in order to accomplish the increased training directive of the Squadron.

War Department training films are being shown to all personnel, with Captain Gilbert N. Swett, Air Corps, New Jersey National Guard, the organization's instructor in Associated Arms, Tactics and Technique, supplementing the films with charts and leading discussion of Observation Aviation phases.

Major J. G. Williams, Air Corps, conducted a technical inspection of the unit on April 23rd.

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Lieut. Col. Wm. E. Farthing is relieved from assignment in the Office of the Chief of the Air Corps and assigned to duty in the Hawaiian Department.

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ANTI AIRCRAFT UNIT TRAINS AT BARKSDALE FIELD.

For a period of two weeks fifteen Army anti-aircraft searchlights of Battery A, 61st Coast Artillery, have been sending their beams of light high into the heavens at night above Barksdale Field, La., as an Army Bomber flitted among the clouds in a game of hide and seek. This constituted preliminary training before the opening of the big war maneuvers in this section in May.

The Artillery unit arrived at Barksdale Field on April 12th from Fort Sheridan, Ill. The Artillerymen arrived in a downpour of rain, but lost no time in getting their tents up and moving in.

Captain Frank J. Cunningham, Battery Commander, deployed 15 searchlights and 13 sound locators about the reservation, and practice began on the night of April 15th. Only one plane was used in practice, as the Artillerymen were striving to perfect coordination among the units in "trapping" the plane in the piercing light rays of the searchlights as it was cruising above.

With each searchlight casting a beam of illumination of 800,000,000 candlepower, the silver form of the Bomber was plainly visible at a distance of six miles. First one light would pick up the Bomber and then the entire group of lights would go into action, with long, circular fingers of light raking the heavens until focused on the ship.

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AIR RESERVE OFFICER RECOMMENDED FOR AWARD OF SOLDIER'S MEDAL.

Three enlisted men, members of the 27th Reconnaissance Squadron (LR) at Borinquen Field, Puerto Rico, who witnessed an act of heroism on the part of 2nd Lieut. George L. Albin, Air Reserve, also of that organization, recommended to their Squadron Commander that the Soldier's Medal be awarded Lieut. Albin.

While engaged in athletics near the beach at Borinquen Field, Lieut. Albin's attention was attracted by the gathering of a crowd of Puerto Rican laborers at a point on the shore, and by the calls for help of a drowning man in the water at a point beyond the breakers and near a rocky point.

Lieut. Albin did, at personal risk of life and limb, and after unsuccessful attempts had been made to save the man by Puerto Ricans, swim out to the drowning man, holding the end of a slender piece of wire for safety, and assist him to shore, knowing that the waters in this vicinity are shark-infested, and the bottom rocky and

treacherous.

The Commanding Officer of the 27th Reconnaissance Squadron, Major Delmar H. Duntun, in approving this recommendation, stated:

"Private 1st Class, spec 3 cl. Joseph M. Makely, 6850955, of this organization, while engaged in athletics near the beach on March 13, 1940, entered the water and was knocked down by a breaker and the undertow carried him beyond his depth where he would have drowned but for the timely arrival of Lieut. Albin."

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STUDY OF NAVAL OPERATIONS AT THE AIR CORPS TACTICAL SCHOOL.

Maxwell Field's Air Corps Tactical School is the only service school in the U.S. Army where students receive extensive instruction in naval operations. This subject is taught for the purpose of indoctrinating Air Corps officers in the science of Naval tactics, so that in the event of an emergency, if our airmen have to attack or defend a fleet, they will possess more than a perfunctory knowledge as to the proper technique to employ.

Lieut. Commander Joseph L. Kane, U.S. Navy, Director of Naval Operations at the Air Corps Tactical School, said the instruction is premised upon data determined from past Naval actions. One of the engagements which the student's study is the battle of Jutland, fought during the World War in May, 1916, between the English and German fleets. This action and its many phases are considered most timely because it was the last great naval battle.

Commander Kane's method of imparting his instruction in naval operations has proved to be very effective to the hundreds of officers he has taught. He makes frequent use of the naval game room, which has been constructed in Austin Hall. Its dimensions are approximately 60 by 30 feet and, incidentally, it is the only naval game room in the Army. The phases of the engagements on which he is to lecture are laid out on the floor. Each ship's position is "spotted" by a small ship's model just as it was in the actual combat. This permits visual consideration of historic naval battles as they occurred. The strategic dispositions of the fleets and the tactical employment of the forces can be unfolded step by step in this manner.

Commander Kane has been on duty at Maxwell Field since May 26, 1939. His previous station was at the Naval War College, Newport, R.I. He was born in

(Continued on Page 12) as adj

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POLISH WAR

Transportation of Wounded by Airplane

By Major F. Schmidt, Commander of an ambulance squadron in the Air Force

Article III

As in every war for every weapon a tactics of its own is developed, so in the Polish war (where a German ambulance service was employed for the first time) methods of operation adapted to conditions have been developed.

The actual traveling speed of the ambulance planes adopted for the medical service is 144 miles per hour (230 km.). In contrast to earth-bound transport, the ambulance plane maintains its speed uninterrupted from its start at the front to its landing near a hospital in the homeland. What this in fact really means is best read in the face of a seriously wounded man at the front when he has grasped the fact that in one or two hours he will be in a hospital at home.

Transportation in any form is an evil for the seriously wounded, that from a medical point of view is to be avoided to the greatest extent possible. In this respect the airplane ambulance stands favorably at the head of all transport.

The selection of the 3-motor commercial plane in passenger traffic for the medical service has proved to be a good choice. For the demands which the evacuation of wounded make on plane and crew are at least equal to those in commercial passenger traffic. The simple installations in the plane, adapted to the purpose, are limited to the requirements of a short journey which in the case of the Polish war seldom exceeded 2½ hours.

Four removable litter carriers (holders) with a total capacity of 8 litters are secured to the walls of the cabin. In addition, there is space for two sitting cases. The crew consists of the pilot, observer, radio operator, medical officer and attendant; (5 persons).

To guard against sudden lurches of the plane, a strap secures each litter in place. Each patient can easily be reached from the middle aisle. There is sufficient space so that in case of necessity a bandage can be renewed, the face of the patient observed; a drink can be given or an injection. The necessary medical equipment and supplies is a part of the equipment of each ambulance plane.

The change in the litter frame (support) which became necessary even in the early days of the war now permits the use of Litter 34 and the new field

litter 37 in the plane. The mention of this detail may seem trivial. But it is a necessity for the smooth exchange of empty for loaded litters. At first it was necessary to transfer every severely wounded patient from the field litter to the litter of the plane. Many willing hands were always available to do this with comparatively little pain to the patient; but the loss of time was serious on account of weather conditions and other requirements. With the changes in the litter holders, the loading and unloading time toward the end of the campaign was 8 to 15 minutes for 8 litter cases and two sitting cases. Soldiers with splinted gunshot fractures of the thigh have best appreciated what it means to be removed from a litter of the dressing station or field hospital into a bed in the Zone of the Interior.

The grouping of several planes into a medical squadron has shown itself to be advantageous. Greatest characteristic of such a unit is its enormous flexibility which brings 3 round trips daily into the realm of possibility.

A group of three such planes could evacuate 72 seriously wounded and 18 slightly wounded in one day if the wounded were actually ready for loading on the landing field at the front. Here lies the great difficulty in our evacuation. By their size, ambulance planes are restricted to suitable landing fields and are dependent on earth-bound transport for having the patients at hand. Altogether too much time is uselessly lost on the landing fields at the front waiting for the loading of the patients. This time loss which has reached as much as five hours was the reason why the ambulance planes could seldom make more than one trip per day.

This long waiting is avoidable if the reporting of the presumptive time of landing of the ambulance plane comes in earlier. The delay in reporting over such a long marching distance is more than understandable. Correction can best be made through release from the overburdened earth-bound communications. In part, utilization of radio stations is possible. Most favorable, however, for this liaison between the space immediately in rear of the front lines and the landing field of the large ambulance planes, would be a small communications plane of the Fiesler "Storch" type. Such a plane could restore broken

contacts in the shortest time, receive new orders, select satisfactory landing fields in the immediate vicinity of the wounded, and in cases of necessity, by a few internal arrangements, take up one or two severely wounded.

The desirable course of the employment of ambulance plane service can be sketched as follows:

1. Call on planes to the central authority through a medical station. This call for ambulance plane service is from the Army at the front and if possible by radio. The call to include the probable number of seriously and slightly wounded.

2. Order for action to the commander of the medical squadron, with announcement of the probable number of wounded by classes, through the next higher medical station of the Air Force.

3. Departure of the ambulance planes and landing on the nearest field landing place, or a newly reported landing field the closest possible to the designated destination.

4. Report of the presumptive time of landing at the designated point.

5. Communication between the calling medical station of the Army or the Air Force concerning details of landing should be by means of telephone, motor vehicle or by message dropped from the air.

6. Movement of the wounded by a medical formation of the air force or by motor ambulance from the Army.

7. Airplane loading and departure for Zone of the Interior.

8. Landing and unloading. Transportation of the patients by motor ambulances of the Air Force medical organization to the designated hospital.

As patients often suffered from the cold in spite of many blankets, the cabins of the ambulance planes are now heated with the newer type of heating used in passenger air traffic. The cabins are also ventilated.

Fog is the greatest enemy of flying. It hinders wherever flying is done by sight. It is especially a hindrance in making landings near the front. The flights in Poland have shown that the flying goal can be reached when visibility is not under 2 to 3 kilometers and the clouds not less than 50 meters above the ground. Large fields of fog along the flying route could be flown through or over if the visibility at the goal was sufficient for a safe landing.

In the cold part of the year icing of the plane plays a role. It can prevent operation of the planes. Only a small percentage of the flights in Poland could not be carried out.

The wounded have received air evacuation to the homeland thankfully. The

fact of evacuation by air spread through a field hospital like wildfire. Four hundred kilometers from the border and to be in the homeland in two hours seemed incomprehensible to many soldiers. The joy at this form of medical care was very great and left with those behind in the hospitals of the front the feeling that everything possible is being done for the common soldier. On these psychological grounds, indications for the employment of air evacuation should not be viewed too strictly or narrowly.

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CONSTRUCTION ACTIVITIES IN PANAMA

The temporary barracks which are being built at Rio Hato, former Albrook and France Field gunnery camp, are virtually complete. The new barracks are a short distance south of the gunnery camp and provide sufficient accommodations for a sizeable permanent detachment at Rio Hato, which is about 70 miles southwest of Albrook Field. A new landing field at the new station is nearing completion, and the runway, about a mile long, has been in use for some time.

Meanwhile, work on other projects affecting Albrook Field continued and the percentage of completion on these projects were announced as follows: Contract housing for civilian employees at Albrook Field, 100 percent complete; new road to Albrook Field shop area, 25 percent complete; main entrance road, 65 percent complete; Albrook Field railroad spur, 25 percent complete; road to officers' quarters, 20 percent complete.

It is anticipated that, upon completion of the road to the officers' quarters area, work on the quarters themselves will be started. The new quarters are to be built in an area that a few months ago was jungle, but which since has been cleared out and prepared for construction activities. Noncommissioned officers' quarters also are to be built.

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Study of Naval Operations (From Page 10)

Brooklyn, N.Y., August 19, 1902, and graduated from the Naval Academy in 1923. His initial aviation training was obtained at Pensacola, Fla., in 1925. His service has been varied and most interesting. He was one of the pilots on the 6-plane flight from Norfolk, Va., to Panama in 1933, which established a world's non-stop record for a mass flight, the distance flown being approximately 2100 miles. In 1934 he participated in a 2-plane mercy flight from Coco Solo, Panama, to Galapagos Island, about 1200 miles off the coast of Ecuador, to transport doctors to operate on a patient stricken suddenly with appendicitis.

CANAL ZONE OFFICERS VISIT COSTA RICA

By the Albrook Field Correspondent
tabloid edit

For the purpose of establishing more cordial relations between the military authorities of the Canal Zone and the government officials in Central and South American countries, a flight of twelve B-18's made a trip to Ecuador and Peru in March, with stops at Guayaquil, Quito and Lima. In continuance of this policy, 25 planes from the 19th Wing went to San Jose, Costa Rica, early this month (April). The Department Commander, Major General Daniel Van Voorhis, with his principal staff officers, accompanied the flight to San Jose to take advantage of the occasion to make his first formal visit on the President of Costa Rica. It is estimated that at least 30,000 Costa Ricans, together with the President of Costa Rica and his principal Cabinet members, were at the airport to witness the arrival of the American B-18's, P-26's and P-36's. While in Costa Rica, the American officers were the guests of the Costa Rican officials.

The 25 airplanes, containing 39 officers and 24 enlisted men, flew from the Canal Zone to San Jose, Costa Rica, on April 7th. Lieut. Colonel Francis M. Brady commanded the flight and carried Major General Daniel Van Voorhis, Panama Canal Department Commander, and members of his staff in a B-18 airplane. Other Panama Canal Department officers were: Brigadier General Joseph M. Cummins, Commanding General of Fort Davis, and Colonel Jacob L. Devers, Panama Canal Department Chief of Staff. In addition to Lieut. Colonel Brady, Air Corps officers included: Lieut. Colonel Edwin J. House, Commanding Officer of France Field; Majors Bayard Johnson, Samuel Connell, William R. Sweeley, Arthur L. Bump, Milo N. Clark; Captains Russell E. Randall, Roger J. Browne; 1st Lieuts. Henry K. Mooney, Carl T. Goldenberg, Wm. R. Robertson, John H. Jeffus; 2nd Lieuts. John R. Ulricson, Thomas R. Ford, Robert W. Burns, Joseph S. Pirruccello, Clinton C. Wasem, Lewis W. Chick, Robert H. Rowland, Philip B. Klein, Albert M. Cate, John K. Hester, Kyle L. Riddle, David Anderson, Dan H. Yeilding, William H. Swanson, J. Garrett Jackson, Archibald W. Moore, Joseph C. Smith, Albert A. Cory, and Marshall P. Camp.

First to take off were two B-18's with P-26 crew chiefs and four wobble pumps. They left at 5:50 a.m. for David's Run, P., and landed there at 7:20 a.m. Next were the nine P-26's, which came along in three elements, 10 minutes apart. The nine P-36's and the remaining five B-18's did not need to land at David and took off at such

times as to arrive at San Jose at 10:45 a.m. All the P-26's and the two B-18's at David took off at 9:30. All the planes arrived at San Jose together and on time after a very instructive navigation flight over some of the most beautiful mountainous jungle country in the world. There are several good landing fields along the route, but the country in between is impenetrable forest, with high mountains inland and green hell swamps along the coastal lowlands. Mountains up to 12,000 feet line the route to San Jose.

Upon landing at "La Sabana," International Airport at San Jose, the flight was greeted by President Cortez of Costa Rica; Colonel J.B. Pate, U.S. Army Attache to Costa Rica; many Costa Rican Government officials, and thousands of the people of Costa Rica. There were speeches of welcome and the playing of national anthems.

A fleet of Packard cars took the officials and all members of the flight to the Grand Hotel in San Jose, where all flight members were guests of the Costa Rican government. An informal reception on the Hotel Roof Garden preceded luncheon. After luncheon, the ranking officers on the flight paid official calls on Costa Rican Government officials, including the President, the Minister of Foreign Affairs, and the American Embassy. From five to seven o'clock there was a tea dance for all the officers in the administration building of La Sabana Airport.

After the dance, the high ranking officers attended a dinner at the Union Club in San Jose, given by the Costa Rican President. There were many speeches both in English and Spanish, in which cooperation by all the governments of the western hemisphere was the principal topic.

The next morning, most of the officers went on an automobile tour of the city and the surrounding country. The city is beautiful and is located on the central plateau of Costa Rica, a fertile valley in the heart of the coffee country.

Costa Rica produces crops of the tropics, sub-tropics, and temperate zone. Along the coast are banana plantations, while in the mountains fine red apples grow in beautiful orchards. San Jose has the climate of a mountain summer resort in the United States, except that there are no cold or unpleasant months of the year.

The automobile trip proved very interesting to the visiting Air Corps and Department officers.

Two of the nine natural springs that provide the water supply of San Jose were visited first. Then a rise to an elevation of 7,000 feet brought the

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party to "La Canada," the hacienda of Dr. Bernardo M. de Oca, prominent in Costa Rican civil and professional affairs. There the visitors marveled at the flowers, for there were hundreds of varieties in evidence. Not only did they adorn the private hacienda, but the public works and institutions appeared as show places of rare beauty. Hydrangeas, as large as the human head, black pansies, yellow poppies, borders of violets, orchids, camellias, roses, snap dragons and calla lillies, all bloomed in a profusion of color and design.

The vista from "La Canada" was like a picture postcard panorama, with white clouds sailing so low that vision of the verdant valley and shining city often was obscured. Cages of beautiful tropical birds, a mountain stream running through the barn and other unusual sights were seen at Dr. Oca's ranch.

After a friendly tilt at billiards in the game room and an interesting inspection of the Doctor's many photograph albums, refreshments were served. Continuing up the mountain side, the party inspected the Duran Sanitarium and stopped for luncheon at a small inn near the summit of the Trazu Volcano, over 11,000 feet high. A native Costa Rican dinner with native wines was served.

The return trip to San Juan was made in time to attend a reception at the American Legation, with Mr. Lewis and Mr. Tyler as hosts. This was, indeed, a good party, and there were more beautiful girls than at the tea dance.

Members of the flight found it difficult to describe the associations attached to a trip as eventful and significant as this one. All members hoped, however, that the Panama Canal Department had proved itself a "good neighbor" while partaking of the hospitality of the Costa Rican people.

The following morning, April 9th, the 25 planes all took off and proceeded directly to the Canal Zone, all arriving by noon. The planes all functioned well, and the entire trip was a great success.

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A NIGHT RECONNAISSANCE FLIGHT

On the night of April 17-18, the 6th Bombardment Group (M) engaged in an extended reconnaissance flight. As part of the training for patrol flights of the future, a flight of three airplanes left France Field at 9:00 p. m. to make a study of the coast and coastal lighting system of the Republic of Panama, which might be used as aids to night aerial navigation. The route was from France Field along the coast to Bocas del Toro, then across the Republic to

Punta Burica, again along the coast to Cape Mariato, Cape Mala, Rio Hato, JCF Panama, Punta Gorda, to Jaque, then across the Republic to a point just west of Cape Tiburon along the coast to Porto Bello and back to France Field. The distance covered, including a few inland flights, was approximately 1150 nautical miles.

The weather for the flight was generally fair, although the usual tropical changes were encountered. General poor visibility caused by broken clouds, haze and smoke from forest fires made close formation a necessity. However, a bright moon made the features of the shore line recognizable and this, plus the timed flashes of the lighthouses, made the navigation problem easy. Approaching Jaque, R. de P., a thunderstorm, which caused a little concern, became too close for comfort and, consequently, the flight changed its course. Just north of Jaque, the flight encountered conditions of solid overcast and flew over the overcast until the lights at Porto Bello showed through the dark clouds. From Porto Bello the flight returned to France Field and landed at 0545 a.m.

The use of double crews, i.e., two pilots and two co-pilots was found necessary because of the unusual amount of close formation which must be engaged in to prevent the flight from becoming separated while flying through localized areas of very low visibility. This use makes a trip, which normally would be very fatiguing, less strenuous and thereby enhances the combat efficiency of the flight.

The flight was commanded by Major S. M. Connell, Commanding Officer of the 6th Bombardment Group. Members of the flight were:

Majors William R. Sweeley, Commanding Officer, 25th Bombardment Squadron; Elmer T. Rundquist, Commanding Officer, 3rd Bombardment Squadron; 1st Lieut. Byron E. Brugge and 2nd Lieut. Morris H. Shedd, Air Corps; 2nd Lieuts. David McN. Peffer, Hugh D. Wallace, William E. Greer, George A. Beere, William L. Herblin, Thomas R. Ford and Paul D. Wood, Air Reserve.

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Under date of May 15th, the War Department announced that orders are being issued to move the Base Headquarters and the 19th Air Base Squadron, consisting of approximately 4 officers and 250 enlisted men, from Hamilton Field, Calif., to McChord Field, Wash., for permanent station. This Squadron was organized at Hamilton Field in February, 1940, and has been in training at that station since its organization. Construction at McChord Field has progressed sufficiently to permit this troop movement.

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of Jacob
FOUR-LENS CAMERA AND VIEWER
By E. B. Woodford, Materiel Division

of Jacob
A four-lens color camera and complementary viewer is now in the process of development at the Materiel Division. This camera is for the purpose of utilizing a special form of the additive system of color photography, four $\frac{1}{4}$ by $\frac{1}{4}$ -inch pictures being made at the same time on a 9 by 9-inch area of panchromatic film, each through a different filter. The red of the object being photographed will be recorded by the lens having a red filter, the green through a green filter, the blue through a blue filter, and the violet through a violet filter. The resulting negatives will then be printed by contact onto film, yielding dispositives which will be projected to a magnification of two times onto a ground glass screen in a viewer.

a. This viewer is a four-lens projection instrument fitted with filters which correspond to the taking filters used in the camera, the positives from the red filter negative being projected through a red filter, the positive from the green filter negative being projected through a green filter, and so on. These four colored images will be superposed on the screen to form the color photograph.

b. The theory of additive color photography demands three properly selected taking filters and three similar viewing or projecting filters. No account is taken in this theory, however, of the presence of haze as in aerial photography, the effect of which is to attenuate the contrast of the blue filter negative. For this reason, a fourth negative may be made through a blue or violet filter, the effect of this extra blue filter negative being to enhance the contrast of the blue record.

c. The four-lens camera is now being fabricated at the Materiel Division. It will be provided with four $\frac{7}{8}$ -inch F/4.5 Goerz Dogmar lenses and a focal plane shutter, and will accommodate a 9 by 9 inch, Type A-5, vacuum back magazine. The viewer is a projection instrument as described above, and is being fabricated by the Keystone Aviation Company, Philadelphia, Pa. If preliminary tests show this method of color photography to have promise, a projection instrument of approximately ten times magnification will be considered.

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Major Ralph F. Stearley has been relieved from duty with the faculty of the Air Corps Tactical School and assigned to duty in the Office of the Chief of the Air Corps.

XB-15 BOMBING PLANE FLOWN TO PANAMA
By the Albrook Field Correspondent

Winging its way down from Langley Field, Va., via Miami, Fla., to Albrook Field, Canal Zone, in 14 hours and 45 minutes, the U.S. Army Air Corps XB-15 swung around Telegraph Hill before Albrook runways at 3:15 p.m., April 10th.

The giant Bomber, the only one of its kind in the Air Corps, was commanded by Major C.V. Haynes. Captain C.E. LeMay, pilot; 2nd Lieut. J.B. Montgomery, co-pilot, and 2nd Lieut. H.S. Williams, navigator, composed the balance of the command personnel of the flight. The enlisted crew of the XB-15 were Master Sergeant A. Cattarius, Crew Chief; Technical Sergeant W.J. Heldt, Engineer; Staff Sergeants J.E. Sands, Radio Operator; C.M. Kinchloe and J.W. Freeman, Assistant Engineers.

Major Haynes is Squadron Commander of the 41st Reconnaissance Squadron (Long Range), of Langley Field, Va. The 41st is the home squadron of the big plane. All of the enlisted men are of the 41st Squadron, one of the brand new units of the Air Corps organized since February 1, 1940.

The officers and crew of the XB-15 were scheduled to remain in Panama for several weeks, spending some time both at Albrook and France Fields.

Master Sgt. Cattarius is the only one of the crew who has had a tour of service in Panama. Tech. Sgt. Heldt and Staff Sgt. Sands have been here previously on cross-country missions. To the members of the enlisted crew other than the three mentioned, Republica de Panama is new territory. All were favorably impressed with Albrook Field's many new developments and welcomed the opportunity to renew many old acquaintances.

Staff Sgt. Kinchloe, amateur cameraman of the crew, has been making use of the many opportunities afforded by Old Panama and the great variety of street scenes in Panama City proper to add to his many thousand feet of 8 MM. film. The recently organized Amateur Camera-men at Langley Field will be treated to many interesting films when the XB-15 returns to its home airrome.

The crew has been quartered and rationed with the 74th Bombardment (M) Squadron at Albrook Field. "One of the best messes in the Air Corps," was one of the comments your correspondent heard from some of the crew.

The trip from Langley Field was very successful, with superb performance on the part of the four 1500 h.p. powerplants of the big Boeing. Meals, served

piping hot from the ship's galley, were enjoyed by the whole crew. Commenting on the overnight stop in Miami, "the land of winter sunshine," Staff Sgt. Freeman said: "I nearly froze sleeping in the ship." California please note:

The ship's mascot, an ocelot, was left at Langley Field, and its place was taken by a Persian cat belonging to Captain Floyd B. Wood, of Albrook Field. The cat arrived shipshape with no complications.

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INDIAN TRIBE HONORS GENERAL FICKEL

On the evening of April 25th, Brigadier General Jacob E. Fickel, Assistant to the Chief of the Air Corps, was inducted into the Otoe Indian Tribe at Tulsa, Oklahoma, by Indian Chief Joe Shumatona. The ceremonies were very impressive. One of the young chiefs performed a war dance, and several of the warriors did a rabbit dance, accompanied by tom-toms and whoops. Chief Joe Shumatona did some rope tricks.

The new honorary chief of the Otoe tribe received a beautiful headdress from the Indian Chief, who pronounced General Fickel Chief High Eagle or Ootohn Wah Hootlee. General Fickel, accompanied by Lieut. W.G. Benn, were guests at Tulsa for the Southwest Aviation Conference.

In accepting the token, the General expressed his appreciation on behalf of the entire Air Corps for the honor bestowed.

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GEN. ARNOLD DEPARTS ON INSPECTION TOUR

Major General Henry H. Arnold, Chief of the Air Corps, departed from Bolling Field, D.C., on May 3, 1940, on an inspection tour. He was accompanied by Lieut. Colonel David N.W. Grant, Medical Corps; Majors Warren R. Carter and Benjamin W. Chidlaw, Air Corps. It is contemplated that landings will be made at Brownsville, Texas; Mexico City, Mexico; Guatemala City, Guatemala; Managua, Nicaragua; Albrook Field, Canal Zone; Maracaibo, Nenezuela; La Guaira, Venezuela; Trinidad; San Juan, Puerto Rico; Camaguey, Cuba, and Miami, Fla.

The party departed from Bolling Field in a C-41 airplane, piloted by General Arnold, with Captain E.H. Beebe, co-pilot; Technical Sergeant Henry V. Fuzenski, mechanic, and Staff Sergeant Robert H. Meade, radio operator.

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INSIGNIA FOR NEW FLYING RATINGS

To provide suitable insignia for the new flying ratings established incident to the reclassification of Air Corps officers, the War Department has approved various changes in the wording of paragraph 42, A.R. 600-35, headed "Badge, aviation," these changes being published in Circular No. 31, War Department, March 23, 1940.

The general device is described as "a device consisting of a pair of wings of oxidized silver, 3-1/8 inches from tip to tip."

Additions to the general device, to denote the various flying ratings, are indicated below, as follows:

Pilot: The shield of the United States, without stars in the chief, at the center of the wings.

Senior Pilot: Same as for Pilot, with the addition of a star, 3/8-inch in diameter, worn 1/16 inch above the shield.

Command Pilot: Same as for Senior Pilot, with the addition of a wreath encircling the star.

Combat Observer: The letter "O" at the center of the wings.

Technical Observer: The letter "O" in front of the letter "T" at the center of the wings.

Balloon Pilot: A balloon and basket at the center of the wings.

Senior Balloon Pilot: Same as for Balloon Pilot, with the addition of a star, 3/8-inch in diameter, above the balloon.

Balloon Observer: The letter "O" in front of a balloon and basket at the center of the wings.

The insert opposite this page illustrates the insignia for Senior Pilot, Command Pilot, Technical Observer, Senior Balloon Pilot and Balloon Observer.

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PROGRESS AT AIR CORPS TACTICAL SCHOOL

The current three-months' course at the Air Corps Tactical School, Maxwell Field, Ala., entered upon its fifth week on Monday, May 6th, in its study of aerial combat tactics. The class commenced on April 8th with 100 officers in attendance, all from the Army Air Corps with the exception of Lieut. Colonel Adrian St. John and Captain Ralph B. Strader, Chemical Warfare Service; Major Thomas J. Walker, Jr., U.S. Marine Corps; Captain Edward L. Strohhahn, Field Artillery, and Lieut. Chiang Wego, Chinese Army.

Officials of the Tactical School announced that there would be an interval of two months between the conclusion of the present course and the next class, which will start early in September.

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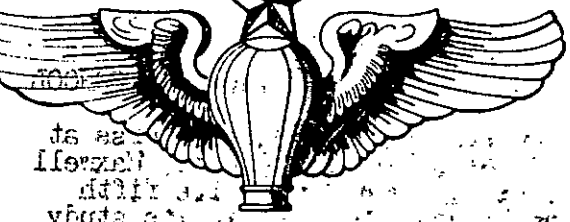
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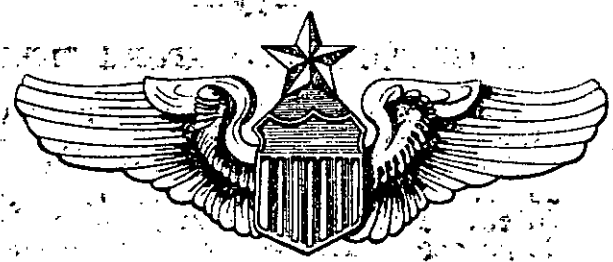
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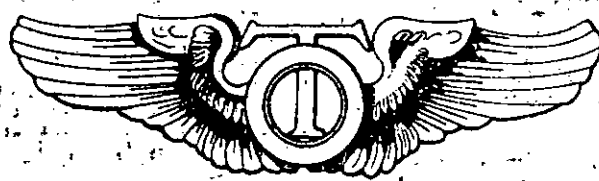
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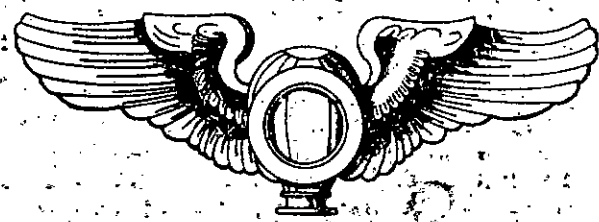
Wings and Pilot emblem with a star and shield.



SENIOR PILOT.



TECHNICAL OBSERVER



BALLOON OBSERVER

GRADUATION OF CLASS 40-B FROM KELLY FIELD

The second class of student flyers of the Army Air Corps to undergo the initial phase of training at the civilian elementary flying schools, which were selected by the War Department incident to the Air Corps Expansion Program, graduated from the Advanced Flying School, Kelly Field, Texas, on May 11, 1940.

This class consists of 213 members, two being officers of the Regular Army and the remainder Flying Cadets.

Coincident with the graduation of the above class, the Air Corps Training Center, according to the Kelly Field Correspondent, established a new all time record in student pilot training, the Advanced Flying School graduating and presenting "wings" to the second class of over 210 Flying Cadets within the record time of seven weeks. All classes still receive the standard nine-months' training course, but they are so staggered that each of the three training stages (Primary, Basic and Advanced) now has two separate classes under its wing at the same time. This expansion in the training set-up has allowed the Training Center to nearly quadruple their annual output of military pilots since 1938. In 1938, less than 400 student officers and Flying Cadets successfully completed the training course. During 1940, over 1500 men will receive their diplomas; actually an annual graduation increase of 286% in two years. Already the 1938 total of 390 has been surpassed by 53 men.

The graduating class has just completed three months of intensive training in modern Basic Combat Training planes at the Advanced Flying School. Most of the flying course has consisted of formation flying, cross-country flying, instrument flying and night flying. The class was prepared for this advanced flying at Randolph Field, Texas. Each man arrived at Randolph Field after having successfully passed the three months' primary course at one of the nine civilian flying schools now under Army supervision. The course of nine months, fully completed, includes 225 hours of flying and approximately 400 hours of ground training in the subjects of navigation, meteorology, airplane structure and design, airplane engines, radio, and allied tactical and military subjects.

Having received a commission in the Air Corps Reserve as Second Lieutenant, each graduating Flying Cadet will be placed on extended active duty to complete his training while piloting the modern planes of the Air Corps; and the two Regular Army officers will transfer to the Air Corps from their former line branch.

After ten days of active duty at Kelly Field, the class will proceed to the Air Corps' principal tactical fields for a three-months' course of specialized instruction in the branch of combat aviation to which they are assigned. Upon completion of this course, these new pilots will be ordered to duty at the numerous Air Corps posts throughout the United States proper and its outlying possessions. Their foundations in all fields of

aeronautics will be the finest obtainable, and their training in the employment of the Air Corps toward its primary mission of national defense will be completed.

The roster of the graduates of Class 40-B is given below, as follows:

Officers	
1st Lt. Paul L. Barton, Inf.	Vermont
2d Lt. James Y. Parker, Field Art.	Texas
Flying Cadets	
Jolly, Hoyt Avery, Jr.	Auburn, Ala.
Marshall, Richard M., Jr.	Birmingham, Ala.
Austin, George Lafayette, Jr.	Stevenson, Ala.
Wright, Ellis W.	Miami, Ariz.
Biddlecome, Bruce Dutton	Phoenix, Ariz.
Sumtington, Edward M.	Tucson, Ariz.
Wigley, Roy C.	Tucson, Ariz.
Stacher, Sherman F., Jr.	Window Rock, Ariz.
Camp, Kenneth L.	Jonesboro, Ark.
Salisbury, Arthur George	Jonesboro, Ark.
Cagle, Charles Edgar, Jr.	Little Rock, Ark.
Cobb, James Opal	Minrod, Ark.
Martin, Neil Gibson	Texarkana, Ark.
Hoover, Travis	Arlington, Calif.
Grossmith, Louis B., Jr.	Berkeley, Calif.
Jones, Wm. Woodruff	El Centro, Calif.
O'Connor, Everett James	Hollister, Calif.
Settle, Ralph Eugene	Kingsbury, Calif.
Hollingsworth, George H.	Long Beach, Calif.
Rulison, Arden M.	Long Beach, Calif.
Berry, Maurice A.	Los Angeles, Calif.
George, Paul P.	Los Angeles, Calif.
Hanson, Wayne A.	Los Angeles, Calif.
Thomas, Francis C., Jr.	March Field, Calif.
Cornett, James I.	Ontario, Calif.
Hornby, David Alonzo	Redlands, Calif.
Akins, Kenneth L.	Sacramento, Calif.
Fitzgerald, John Edward, Jr.	San Diego, Calif.
Bowden, William M.	San Dinis, Calif.
Cox, Ward, Jr.	San Francisco, Calif.
Wheeler, Claremont Edward	San Jose, Calif.
Riley, Jack B.	West Los Angeles, Calif.
Robinson, James C.	Newark, Del.
Meeks, George Everett	Washington, D.C.
Northrop, Douglas Clinton	Glenbrook, Conn.
Toutman, Isadore W.	Wethersfield, Conn.
Hunt, William Bennett	Clermont, Fla.
Hogan, Harvey	Athens, Ga.
Baxter, Reuben Augustus	Decatur, Ga.
Earthman, Henry B.	Decatur, Ga.
Gillespie, Joe Gill, Jr.	Savannah, Ga.
Holst, John Bernt	Savannah, Ga.
Lyons, John R.	Savannah, Ga.
Foster, Byron W.	Craigmont, Idaho
Keatts, Robert N.	Moscow, Idaho
Simpson, Donald Andrew	Carrollton, Ill.
Gallagher, Raymond Keith	Chicago, Ill.
Gerrity, Thomas Patrick	Chicago, Ill.
Olson, Arvid E., Jr.	Chicago, Ill.
Rose, Albert T.	Chicago, Ill.
Ellmore, Howard S.	Easton, Ill.
Everitt, Scott F.	Kenilworth, Ill.
Carlgran, Irving O.	Rockford, Ill.
Brady, Francis Thomas	Wheaton, Ill.
Maxwell, Allison	Indianapolis, Ind.
Smith, James Russell	Fort Wayne, Ind.
Conard, Donald Raymond	Coolidge, Kans.
Viar, Leland Austin	Dunlap, Kans.
Boes, Glenn H.	Milton, Kans.
Lobingier, Paul A.	Baldwin City, Kans.
Craft, Winfred O.	Crestwood, Ky.

Keyes, Gordon Frank	Chicago, Ill.	Pierce, Richard Torrence	West Lawn, Pa.
Howard, Vincent William	East St. Louis, Ill.	O'Brien, John G.	Youngstown, Ohio
Hunter, William C	Williamsport, Ind.	Hugos, Howard Francis	Enid, Okla.
Will, Joe O.	Louisville, Ky.	Clapham, Duane Jasper	Norman, Okla.
Brooks, Bascom Anthony	Baton Rouge, La.	Jones, Robert H.	Oklahoma City, Okla.
Laycock, Joseph T.H.	Baton Rouge, La.	Ruegg, Robert George	Boring, Ore.
Martin, Charles A.	Natchitoches, La.	Fisher, Charles E.	Corvallis, Ore.
Shaw, Kenward dev.	New Iberia, La.	Hansen, Charles E.	Corvallis, Ore.
Tukey, Philip Edgar, Jr.	Cape Elizabeth, Me.	Thomas, Joseph Edward	Madras, Ore.
Dyer, Hamilton Higgins, Jr.	Kennebunk, Me.	Ireland, Loren Elsworth	Marshfield, Ore.
Halliwill, Eugene Herbert	Portland, Me.	Mainwaring, John Donald	Forty-Fort, Pa.
Snow, Richard Maurice	Rockland, Me.	Christman, Robert H.	Milford, Pa.
Flood, James Joseph	Lynn, Mass.	Haviland, Isaac John, Jr.	Philadelphia, Pa.
Dupouy, Parker Shapleigh	Seekonk, Mass.	Ottinger, William W.	Philadelphia, Pa.
Keenan, James Henry	Winchester, Mass.	Palston, Frank Bennett	Pittsburgh, Pa.
Colé, Alden Chamberlin	Whitman, Mass.	Carbine, Thomas Joseph	Villanova, Pa.
Hanlon, Alfred James, Jr.	West Roxbury, Mass.	Dewey, Charles E.	Troy, Pa.
Toner, James Vincent, Jr.	West Newton, Mass.	Feltham, John D.	Newport, R.I.
Owen, William F.	Detroit, Mich.	McGovern, David Regan	Providence, R.I.
Allen, Richard L.	Grand Rapids, Mich.	Knox, Forrest Thomas	Buffalo, S.C.
Bradley, Francis X., Jr.	Grosse Pointe, Mich.	Abercrombie, Clarence L.	Fountain Inn, S.C.
Morneau, Chester H.	Milaca, Minn.	Register, Percy D., Jr.	Columbia, Tenn.
Eybank, John Nelson, Jr.	Minneapolis, Minn.	Webber, Wm. Alexander	Nashville, Tenn.
Hustad, Carl A.	Minneapolis, Minn.	Yearwood, Roy Waggoner	Nashville, Tenn.
Tucker, James E.	Minneapolis, Minn.	Wallace, Stanley H.	Parsons, Tenn.
Hubbard, Mark E.	St. Paul, Minn.	Connor, I.C., Jr.	Columbia, Tenn.
Boggs, Kenneth D.	St. Paul, Minn.	Chambers, Joseph A.	Tallico Plains, Tenn.
McCullar, Kenneth D.	Courtland, Miss.	Blackmon, Linnon Robert	Abilene, Texas
Sounds, Fred E.	Shubuta, Miss.	Price, Frederick Eugene	Abilene, Texas
Odell, William Charles	Brentwood, Mo.	Hohlaus, Kenneth H.	Amarillo, Texas
Morton, Stratford L., Jr.	Clayton, Mo.	Huntsman, Wayne Howard	Amarillo, Texas
Miller, Wynn Dixon	Columbia, Mo.	Toomey, John Marshall	Austin, Texas
Vaughan, Thomas Scott	Columbia, Mo.	Reyes, Alvino Villarreal	Besville, Texas
Graham, Edwin H., Jr.	Kansas City, Mo.	Kadanka, Victor Daniel	Corpus Christi, Texas
Person, Paul Manning	Marysville, Mo.	Morris, Norman Gayle	Cross Plains, Texas
Trimble, Garval Robert	Matthews, Mo.	Cobb, Edward Everett, Jr.	Dallas, Texas
Atkins, Walter Jackson	Warrensburg, Mo.	Farris, Carrol C.	Dallas, Texas
McKee, Robert T.	Butte, Mont.	McIlheran, Robert C., Jr.	Dallas, Texas
Fay, Fergus C.	Helena, Mont.	McIver, Otto Bill	Dallas, Texas
Wanderer, Ralph M., Jr.	Hamilton, Mont.	Walling, Craig Emanuel	Farwell, Texas
Eveland, Ivan W.	Missoula, Mont.	Collins, Thomas Franklin	Garden City, Texas
Stroud, Walter Charles	Lincoln, Neb.	Dittman, Henry	Goose Creek, Texas
Moore, Allan J.	Reno, Nev.	Gunstream, Walter C.	Houston, Texas
Cole, Richard Herbert	Elizabeth, N.J.	Heiss, Gustave M., Jr.	Houston, Texas
Bickell, George Ross	Nutley, N.J.	Ramsey, Thomas Isaac	Karnes City, Texas
Hennin, Philip Francis	West End, N.J.	Cook, Howard Gordon	Kingsville, Texas
Stafford, Cyrus Black	Camden, N.J.	Hall, Donald Pierce	Kingsville, Texas
Blackburn, John E., III	Roswell, N.M.	Harper, Shelby	Lubbock, Texas
Bender, Frank Peter	Brooklyn, N.Y.	Mullin, Vernon Q., Jr.	San Antonio, Texas
Maiersperger, Walter Paul	Brooklyn, N.Y.	Uhr, Clinton W.	San Antonio, Texas
Grunewald, Kenneth F.	Flushing, N.Y.	Chapman, Benjamin F.	Sulphur Springs, Texas
Wilder, Alan W.	Garden City, N.Y.	Lyster, D.K.	Vernon, Texas
Mulholland, Mitchell J.B.	Long Island, N.Y.	Howard, William H.	Waco, Texas
McKenna, Charles F., III	Fort Totten, N.Y.	Behling, Lincoln E.	Kaysville, Utah
Champlain, Daniel Dolph	New York, N.Y.	Neslen, Alfred J.	Salt Lake City, Utah
Pedersen, Norman H.	Port Richmond, N.Y.	Sorenson, Blair M.	Salt Lake City, Utah
Schmidtchen, Robert P., Jr.	Sag Harbor, N.Y.	Van Cott, Charles Robert	Salt Lake City, Utah
Lassiter, Olbert F.	Elizabeth City, N.C.	Starbuck, James H.	Burlington, Vt.
McLean, John L., Jr.	Raleigh, N.C.	Myers, Earle Russell	Alexandria, Va.
Moseley, Cuthbert L., Jr.	Raleigh, N.C.	Chiles, John William	Natural Bridge, Va.
Worrell, James Abner, Jr.	Rich Square, N.C.	Cook, Elmer John	Endicott, Wash.
Forsman, Alphons Edwin	Jud, N.D.	Patterson, John G.	Greenacres, Wash.
Schroeder, Charles E., Jr.	Westhope, N.D.	Braddock, Joel Quinn	Marblemount, Wash.
Farley, Orville B.	Akron, Ohio	Schaff, Oscar Reynolds	Oakdale, Wash.
Ferrey, James P.	Akron, Ohio	McCullom, Loren George	Pullman, Wash.
Mullins, William P.	Cambridge, Ohio	Goldsworthy, Harry E.	Rosalie, Wash.
Petri, Christian, Jr.	Cleveland, Ohio	Lavin, John N.	Spokane, Wash.
Greenfield, William D.	Dayton, Ohio	Tash, Earl E.	Walla Walla, Wash.
Sonenfeld, Robert	Lakewood, Ohio	Gordon, Andrew F.	Laramie, Wyo.
Campbell, David A.	Plattsburg, Ohio	King, Arnold Tyvold	Laramie, Wyo.
Fleet, Burton Rush	Tiffin, Ohio		

Downs, James Albright	Morgantown, W. Va.
Schilling, David Carl	Land O'Lakes, Wis.
Lingard, Aldro I.	Madison, Wis.
Truax, Thomas L.	Madison, Wis.
McKenzie, Melvin Almon	St. Johnsbury, Vt.
Atkinson, Peter W.	Inwood, W. Va.
Hinman, Harvey H.	San Francisco, Calif.
Larner, Edward L.	San Francisco, Calif.
Blakely, Hugh H.	Wichita Falls, Texas
McCollom, Loren George	Pullman, Wash.

The State of Texas, which had the highest student representation when this class started training, a total of 43 Flying Cadets, is credited with the highest number of graduates, 27, as against 21 for California, which, with 41 entering students, was in the runner-up position. Other States which are represented by five or more students in the graduating class are Illinois, with 11; New York, Ohio and Washington, 9 each; Missouri and Pennsylvania, 8 each; Georgia, Massachusetts, Minnesota and Tennessee, 6 each; Arizona, Arkansas, and Oregon, 5 each.

Chicago, Ill., leads the cities represented in the graduating class with 5 students, followed by Dallas, Texas, with 4, and Los Angeles and San Francisco, Calif., Savannah, Ga., Minneapolis, Minn., and Salt Lake City, Utah, with 3 each.

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PICTORIAL STORY OF AIR CORPS TRAINING CENTER

A series of 40 enlargements, telling in pictorial form just how a young college man is transformed into a full fledged military pilot during his nine months' training course in the three schools of the Air Corps Training Center, will be one of the features of the National Aeronautics Forum to be held in Washington on May 27-28, 1940.

Visitors to the exhibit at Bolling Field figuratively will follow a Flying Cadet from the day he first reports for duty at one of the nine elementary flying schools until he receives his wings and commission as a second lieutenant less than a year later.

Several Flying Cadets from Randolph Field will be on hand to answer questions pertaining to the Training Center. The pictorial exhibit is being prepared by the Randolph Field Photographic Department.

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SIGNAL CO., AVIATION, ACTIVATED AT MARCH FIELD

Under authority of The Adjutant General, the 302nd Signal Company, Aviation, was constituted at March Field, Calif., on April 17, 1940.

The Signal Company, composed of men who have been assigned to the Signal Detachment at March Field, is under the capable leadership of Captain Charles S. Stodter, Signal Corps, who came to March Field on September 5, 1939, from Fort Humphries, Va.

With 1st Sgt. Edwin Harding, Jr., 6 noncommissioned officers and 40 privates, the Company is eagerly awaiting the allotment of ratings to be forthcoming in the near future. The Air Corps welcomes this new adjunct to its fold.

AIR CORPS DETACHMENT REACHES FAIRBANKS, ALASKA

Writing from Ladd Field, Fairbanks, Alaska, under date of April 26th, the News Letter Correspondent states that the first Air Corps Detachment to Alaska, commanded by Major Dale V. Gaffney, of Hamilton Field, assisted by 2nd Lieut. M.E. Walseth, Staff Sgts. Lee McAtee, Maurice Goldberg, Robert Hendrix and Pvt. 1st Cl. Edwin Hudson, all of March Field, Calif., arrived at Fairbanks, Alaska, on April 14th.

The Correspondent goes on further to say: The trip to Seward on the ST. MIHIEL was unique, in that we ran aground entering Puget Sound, and spent a day on a mudbank until a Navy tug pulled us off. This caused a three-day delay in Seattle, which all passengers enjoyed.

At Seward we boarded the only train in Alaska, and started the supposedly 12-hour trip to Fairbanks. It actually took 24 hours, with one-hour stop at Anchorage for dinner.

At Seward, we were convinced this country was just what is said about it - snow and ice - but ever since arrival at Fairbanks the weather has been ideal. All snow and ice is gone.

Most of the fields in Alaska are in condition for wheels, and the Detachment expects to survey them as soon as the wings can be assembled on our O-38F airplane.

Much work has been done on Ladd Field during the winter - bridge built, rail extension in, gravel pit set-up, 10,000-foot runway cleared and leveled. In fact, everything is set for immediate construction as soon as all materials and detailed plans arrive.

Fourteen hundred men are registered and all set to go to work. At present only about four hundred are working three shifts. Full operation is anticipated by July first.

The local population have and still are giving us a warm reception. All are very friendly towards the Army, and all proud of their community.

For those in Alaskan units - none of you will be disappointed in coming up here. This country is all that is said about it, and more. We look forward to a visit by many of you this summer."

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ENLISTED MEN "WANT WHAT THEY WANT."

The 39th Pursuit Squadron, Selfridge Field, Mich., has 54 men at the Service Schools out of an authorized strength of 153. "We have very few men left that are eligible for training at any of the schools," says the News Letter Correspondent. "The other day we had to let an opportunity to send a man to the Armorer's School go by, as we had no one left who desired that course. The men have all made up their minds as to what course of training they desire and, regardless of how well qualified the individual may be for another course, don't try to steer them away from their hearts' desire. Well, more power to them for knowing their desires and sticking it out until their turn comes around."

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V-8462, A.C.

MOVING AIRPLANES THROUGH CITY STREETS

Some Honolulu midnight frolickers dashed back into a bar for another drink, while others swore they were going "on the water wagon" when before their eyes, in the center of Honolulu, there appeared two airplanes coming up the street. A few late working citizens, who were quite sure their eyes were not deceiving them, remembered that it was the night before Army Day and that the newspapers had stated that two airplanes would be included in the Army exhibits in the Palace Grounds.

The task of getting a P-36 and an O-47 from Wheeler Field to the Palace Grounds in Honolulu was delegated to Lieut. Bruce Holloway, of Wheeler Field's Base Engineering Department. After much thinking, telephoning, measuring of streets, and wondering about the disassembling and assembling of each airplane, he was about to suggest spinning them into the Palace Grounds when he struck upon a plan that proved to be successful.

On the morning of April 5th, the ships were flown to Luke Field where, with the aid of the Navy's floating crane, they were loaded onto a barge. In the afternoon, a Q.M.C. tug boat towed the barge out of Pearl Harbor into the open sea and then into Honolulu Harbor to Pier No. 5. In order to avoid traffic, it was necessary to wait until shortly after midnight before unloading the airplanes from the barge and towing them through the streets. The Q.M.C.'s huge crane at Pier 5 unloaded the ships on to the street.

It was an easy matter to tow the P-36, with its comparatively short wing span, up the streets and into the Palace Grounds, but the O-47, with a width of 46 feet, caused difficulties. To pass each pair of lamp posts, it was necessary to do much pushing, pulling, reversing, and revolving of the O-47, but with Lieut. Holloway in the cockpit, and the detail of men capably directed by Technical Sergeant Ward, the ship was brought into the Palace Grounds without a scratch.

Needless to say, the two airplanes attracted a great deal of attention during the exhibit. Walk ways were built over the left wing and along the fuselage of each airplane in order to afford the public a chance to see the cockpits. In addition to the airplane exhibit, Wheeler Field displayed life rafts and flying equipment and a Photo Section exhibit of photographs and cameras. A very interesting Armament Display was furnished by Hickam Field.

After the close of the exhibit, the airplanes were left at the Palace

Grounds until midnight, when the reverse of the procedure described above was begun, and the airplanes were returned to Wheeler Field without mishap.

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REORGANIZATION AT WHEELER FIELD

Due to the activation of the 86th Obs. Squadron (C&D) and the 78th Pursuit Squadron (Int.), also the division of the field into Base and Group activities, many changes were made in the duties of the officers at Wheeler Field. Major Kenneth N. Walker came from Hickam Field to assume command of the 18th Pursuit Group (Int.). Captain Roger M. Ramey, relieved as Commander of the 19th Pursuit Squadron (Int.), was detailed as Group Executive and Group Operations Officer; 2nd Lieut. John G. Simpson was detailed as Group Adjutant; Captain Minton W. Kaye as Base S-3, relieving Major E.B. Bobzien, who assumed command of the 86th Observation Squadron (C&D); Captain George R. Acheson is now Base S-4, relieving Captain Clarence F. Hegy, who assumed command of the 19th Pursuit Squadron; Captain Lorry N. Tindal, a recent arrival in the Hawaiian Department, is now Operations Officer of the 86th Observation Squadron; and 1st Lieut. William P. Fisher, who also came in on the last transport, is Station Inspector.

Headquarters and Headquarters Squadron, 18th Pursuit Group (Int.), is now commanded by 1st Lieut. Kenneth P. Bergquist.

Assigned to the 6th Pursuit Squadron, commanded by Captain S.E. Anderson, are 1st Lieut. Thomas C. Musgrave, 2nd Lts. C.M. Opiel, L.R. Bratton, T.H. Watkins, W.S. Rector, and George L. Wertenbaker, Jr.

Captain Clarence F. Hegy, commanding the 19th Pursuit Squadron, has the following officers in his organization: 1st Lieut. W.S. Steele, 2nd Lieuts. Pinkham Smith, W.F. Savoie, E.W. Worley, D.E. Newton and C.E. Gregory.

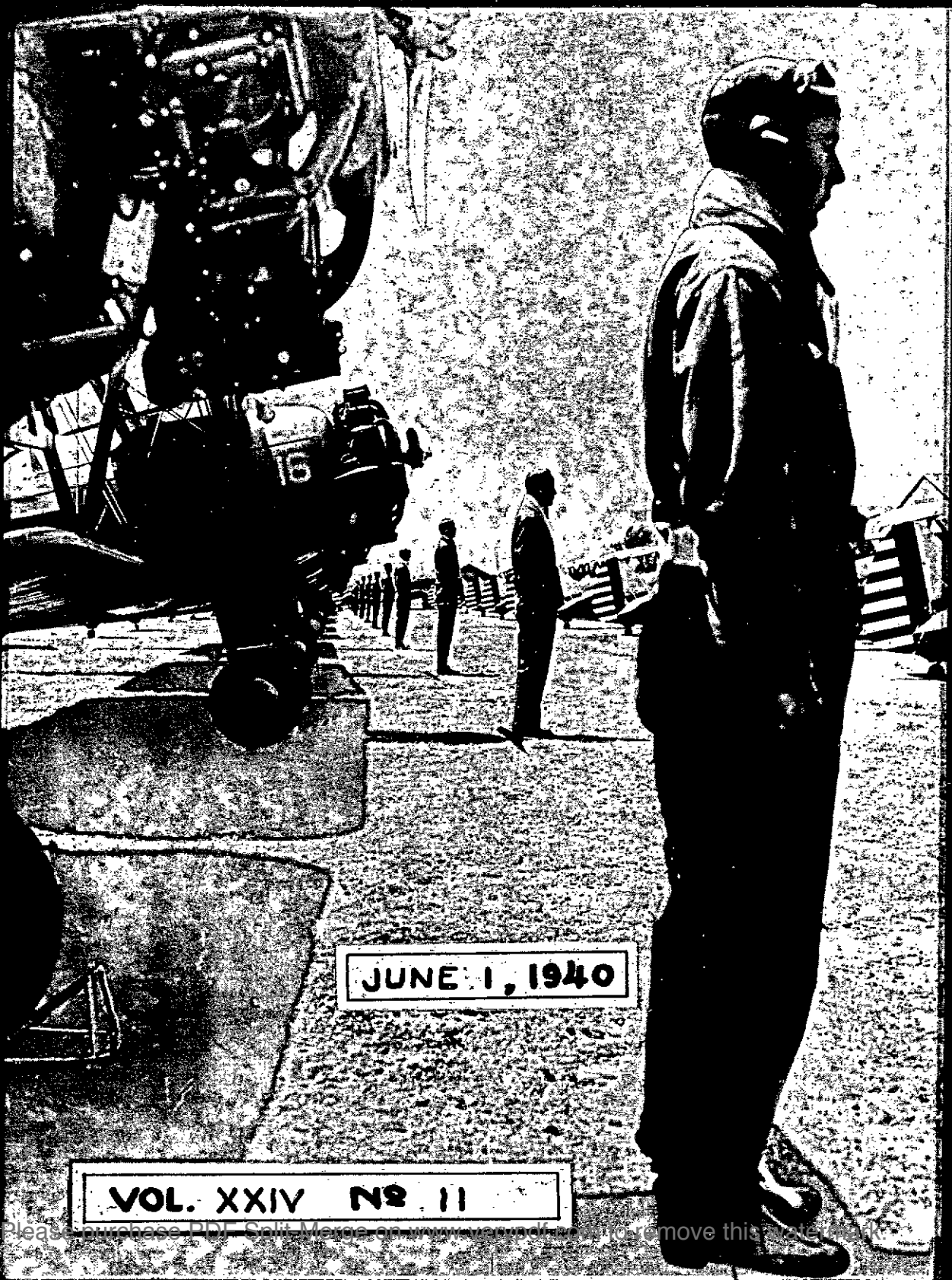
The following officers were assigned to the 78th Pursuit Squadron (Int.), which is commanded by Captain Daniel W. Jenkins: 1st Lieut. J.S. Haltoner, 2nd Lieuts. H.F. Wilson, R.R. Spurgeon, P.J. Kuhl, H.A. Hanes and Malcolm A. Moore.

In the 86th Observation Squadron, commanded by Major E.B. Bobzien, are the following officers: Captain L.N. Tindal, 2nd Lieuts. B.E. Hall, T.A. Holbrook, J.C. Wilkins, R.E. Stone, Jr., and F.M. Taylor.

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Captain Harry G. Montgomery, Jr., of March Field, was assigned as a member of the Air Corps Board, Maxwell Field, Ala. V-8462, A.C.

AIRCORPS LETTER



JUNE 1, 1940

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SECRET

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The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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LOW TEMPERATURE PROPERTIES OF LUBRICANTS

By E.R. Irwin, Materiel Division

The selection of lubricants for use at sub-zero temperatures is of great importance in Air Corps operations. Not only is the effect of altitude to be considered (at 30,000 feet altitude the indicated temperature is -48 deg.F.) but the extremes of ground temperature in the continental United States at one time may vary by more than 100 deg. F. Airplanes changing latitude may encounter such changes in one-day flight. Low temperature lubrication, therefore, can not be divorced from the lubrication at moderately high temperatures.

Assuming that the specified lubricant has the properties necessary for satisfactory normal summer lubrication, how can satisfactory low temperature operation be assured? Fortunately, a great deal of work on the subject has been accomplished by Government and commercial laboratories, and it may be said that the low temperature characteristics of both oils and greases can be adequately predicted by a knowledge of their chemical composition and their physical properties over a moderate temperature range. Except for the evaluation of experimental lubricants of new chemical types, an actual low temperature performance test, which is both slow and costly, is unnecessary.

The first attempt by the Air Corps to classify the low temperature performance of the various types of lubricating oils was initiated in 1927, when 34 oils of selected and different properties were examined. The test program included a determination of the usual descriptive physical properties, including viscosity at three different temperatures on each oil, and a determination of piston drag and pumping rate in the cold room at temperatures to -20 deg.F.

This work showed (1) that the shear resistance of the oil, that is, the torque required to crank the engine, may be adequately predicted from the viscosity at 210 deg. F. and the increase in the viscosity at 100 deg.F., and (2) the fluidity of the oil is also a direct function of viscosity, provid-

ing the pour point is satisfactory. The matter of low temperature viscosity has since been greatly simplified by the work of Hershel (National Bureau of Standards). The continuation of this work by several large oil refining companies has resulted in the publication by the American Society for Testing Materials of their straight-line viscosity-temperature chart. The mathematical treatment of the ratio of the viscosities at 210 deg.F. and 100 deg.F. by Dean & Davis, termed by them "viscosity index," is also very convenient and practically significant, the higher viscosity index denoting the more satisfactory (lower) viscosity at low temperature.

While emphasizing the importance of the viscosity curve of the oil, the necessity of adequately low pour point may not be neglected. The partial solidification of the oil, causing cessation of flow at minimum pressure and termed "pour point," has but little effect on the shear resistance of the film. It is of primary importance in predicting the fluidity or "pumpability" of the oil.

For completely satisfactory "pumpability" the pour point should be not more than about 10 deg.F. above the minimum operating temperature. Fairly satisfactory pumping may be obtained with the higher viscosity index oils down to about 10 deg. below the pour point, providing the equipment has not stood idle for more than the usual overnight period. On standing below the pour point without intermittent warming or agitation, however, such oils become progressively more solidified. It is therefore desirable to specify a pour point slightly lower than the lowest operating temperature of the oil if such pour point is available. A satisfactory pour point having been established, the higher viscosity index then indicates the better of two or more oils.

Low pour point is a natural property of the naphthenic (western) oils and V-8482, A.C.

high viscosity index is a natural property of the paraffinic (Pennsylvania) oils. However, modern methods of refining can produce satisfactory low temperature oils from either type of crude.

The low temperature shear of greases is not so accurately predicted from normal temperature properties, but an accurate general distinction may be made between good and poor greases. As might be expected, the best high temperature greases are not good at low temperatures. The reason for this is that all of the conventional modern lubricating greases are gels of soap and oil. The more stable gels are formed by larger amounts of soap and more viscous oils, both of which increase the low temperature shear torque. For high temperatures the stability of the gel is of primary importance and the conventional commercial high temperature greases are therefore very stiff and tough at temperatures about zero degrees Fahrenheit.

The first point of consideration in selection of the grease is the kind of soap to be specified. The soaps used extensively are those of calcium (lime), sodium (soda), aluminum, and lead, the latter only for gear lubricants as it produces a very soft gel. The order of desirability for low temperature is as given for the first three types.

The calcium-soap greases are of low melting point, plus and minus 180 deg.F., and if the grease must operate above 150 deg.F. temperature range, soda-soap is indicated. At low temperatures, aluminum-soap greases are very tough and viscous and should not be selected. (The most important desirability of aluminum soap greases is their high resistance to water). In addition to lower shear at low temperature, the calcium soaps also promote channeling which further reduces shearing torque.

For other equalities, a low soap content is preferred for low temperature as high soap content hardens the grease more rapidly as the temperature drops. In this way the soda-soap greases regain part of the advantage of the lime soaps as stable greases are formed with less of the soda soaps. For a soft grease, not more than 7 per cent of soda soap or not more than 13 per cent of lime soap may be specified. With the same oil the soda-soap grease may be from 10 per cent to 20 per cent more viscous than the lime-soap grease.

The nature of the oil content is less important than the kind and amount of soap. Data available are not too complete and indicate that pour point is the most important property. Excessive viscosities must, of course, be avoided. For about zero degrees Fahrenheit, an

SAE 20 oil appears satisfactory. Lower temperatures require SAE 10. Even SAE 5 oil may be justified for extreme cold and low power input such as in aircraft control bearings, although the stability of greases with such viscosity is not good at high atmospheric temperatures.

The usual high temperature greases contain plus or minus 20 per cent of soda soaps in an oil of about SAE 60 viscosity. They are not applicable to low temperatures unless considerable excess power, seldom provided in aircraft and their accessories, is available for starting the equipment. The viscosity index should be controlled but is apparently less important than the pour point. Since high viscosity index plus low pour is expensive the present usual commercial practice is to use a medium viscosity index oil of very low (about -40) pour point.

The choice between oil and grease, if the application permits the use of either, is generally in favor of oil. While the torque of rotating at low speed and at minus 40 degrees a three-quarter-inch ball bearing lubricated with a lime-soap grease is only about one-half inch-pound, the torque with gun oil lubrication is scarcely measurable. An exception to this general rule is that of extremely high speed gears in which case the channeling of the grease may result in lower torque than is observed with the oil.

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DATA ON B-23 BOMBING AIRPLANE

The Assistant Secretary of War, the Hon. Louis Johnson, announced recently that the Douglas Aircraft Company, Inc. is making deliveries of a new Bombardment airplane designated the B-23.

This airplane is a modification of the Douglas B-18A. It is of all-metal monocoque construction and shows extremely clean design. It is equipped with two 14-cylinder Wright engines with three-bladed propellers of 13 feet diameter. The approximate gross weight of the airplane is 26,000 lbs. and it is adapted for a crew of six. The wing span is 92 feet; length, 58 feet and the height, 18 feet.

The B-23 is a Bomber of medium size and is expected to have improved performance characteristics over its prototype, the B-18.

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An experimental flight into the Stratosphere was recently completed by Hqrs. and Hqrs. Squadron, 25th Bomb Group, Langley Field, Va. Major E. A. Hillery and 2nd Lieut. H. C. Dorney and

(Continued on Page 3)
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"The student has now sighted the field and after murmuring a prayer of thanksgiving, he heads toward the objective. He flies over the field at about 1600 feet and attempts to sight the wind sock. He makes the mistake of looking at the obvious locations, and of course, as you have already guessed, he doesn't see the sock. He finally decides 'which way the wind blows' by watching a plane take off. He then circles out of sight of the field and, having forgotten to call in, he dives over the field and pulls up in a roar of power. This pull up is sometimes called 'allowable buzzing.' Having completed his assignment, that is, 'dragging the field,' he then makes a three needle width turn around the field and finally lands, taxiing to a stop. He then parks, and turns around to his instructor with a wide 'Didn't I do that good?' grin, and is met with the following: 'You \$#%&*&#\$. I\$%#JAND SO ON,-- far into the night.' I have never been very good at decoding everything the instructor says, but brightly gathered that perhaps the student's approach to the subject was not so hot. C.A.

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V-8482, A.C.

SUCCESSFUL RESULTS BY FLYING CADET BOARD

The March Field Traveling Flying Cadet Board, composed of Major Thomas W. Blackburn, A.C., president; 2nd Lieut. Frank A. Kurtz, A.C., Public Relations Officer and Recorder; Captains Ehrling L. Bergquist and Steven V. Guzak, Medical Corps, recently returned to the home base after a tour of the western States. Second Lieut. Murray A. Bywater, A.C., was advance publicity agent and coordinator for the Board.

Educational institutions visited were the University of Washington, Seattle, Wash.; University of Portland and Reed College, Portland, Ore.; Oregon State College, Corvallis, Ore.; University of Oregon, Eugene, Ore.; University of California, Berkeley, Calif.; San Francisco University, San Francisco, Calif.; Leland Stanford Jr. University, Palo Alto, Calif., and Santa Clara University and San Jose State College, Santa Clara, Calif. Since the entire tour required only forty days to complete, the length of stay at each school was limited.

The unprecedented success of the March Field Board can be gleaned from the following facts and figures: A total of 1150 candidates was interviewed, of which number 710 were examined and 308 accepted for Flying Cadet appointment. Many of these successful candidates have already received their appointment and all that remains for the balance is to await orders from Washington that they are to report for training.

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EDUCATIONAL PROGRAM FOR ENLISTED MEN

An extensive education program, sponsored by the Barksdale Field Welfare Association, originated in February, 1940, by Colonel Lewis H. Brereton, offers unlimited opportunities to enlisted men of the Army Air Corps to complete their elementary studies and continue through a college course.

Classes in English and Mathematics are held at Barksdale Field, La., with high school teachers from local high schools employed as instructors in these courses. A survey of various organizations reveal that approximately 500 enlisted men are attending night classes.

When a soldier has satisfactorily completed his work in the elementary courses, he is prepared to qualify in the Alpha and Mathematics required by the Air Corps for entrance to technical schools. Following the first course, a student may also continue in a course of shop mathematics to prepare him for the technical training at other Air Corps schools.

A course is also contemplated in

shorthand and typewriting to prepare men for clerical positions and make them available for the immense amount of clerical work necessary in the Air Corps. This course will also prove the means of assisting those already employed in this class of work to become more efficient.

Effective this fall, high school courses will be included in the program for those who have not completed their high school work, thus affording them the opportunity to receive high school diplomas.

After the soldier has successfully completed his high school course and his technical training at an Air Corps school center, he may continue his education at Centenary College. Arrangements have been made with the college authorities to offer education to soldiers during off duty hours. The cost of pursuing a course at this college is within the income of every enlisted man. Approximately 215 of the Barksdale Field personnel are taking college courses at the present time. After completing two years of college training, the soldier is qualified for Flying Cadet training at Randolph Field, Texas. This gives him, upon the completion of his flying training, a commission in the Air Corps Reserve. If he completes four years of college work, he is qualified to apply for a Regular commission in the U.S. Army Air Corps.

A class of 100 enlisted men of Barksdale Field, who took advantage of the opportunity to complete their studies at Centenary College during the past semester, will complete their examinations on May 24, 1940. These men had no other way of securing their credits for courses required of them before submitting their application for a Flying Cadet appointment.

Chaplain A.A. Katts, Barksdale Field Educational Officer, has been the leading factor in the splendid success of the educational program. Through his untiring efforts, the classes were organized and capable instructors secured.

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Brigadier General Arnold N. Krogstad, Commanding General of the 2nd Wing, HQ Air Force, Langley Field, Va., recently announced the appointment of Lieut. Colonel George P. Johnson, Air Corps, as Second Wing Executive Officer, succeeding Lieut. Colonel William E. Kepner, who recently left Langley Field to assume the position of Executive Officer of the Air Defense Command at Mitchell Field, N.Y. For the past five years, Col. Johnson was Air Corps Instructor at the Field Artillery School, Ft. Sill, Okla.

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A FLIGHT TO VENEZUELA
By the Albrook Field Correspondent

Another in the series of Good Will flights to South America by the Air Corps personnel left Albrook Field on Friday morning, May 10, 1940. Colonel A.H. Gilkeson, Commanding Officer of Albrook Field, was in command of the flight. Captain Russell E. Randall, 1st Lieut. Thomas C. Darcy and 2nd Lt. Albert A. Cory were the pilots of the flight, which was made in two B-18 type Bombers.

Officers carried as passengers were Colonel W.A. Danielson and Major T.R. Howard, of the Construction Division, Quartermaster Corps, who made the flight to study housing methods of the oil companies in northern South America and the Netherlands West Indies, and Lieut. Colonel K.C. Eastham, of Quarry Heights, the official representative of the Panama Canal Department Headquarters.

The two Bombing planes took off from Albrook Field at 6:05 a.m., enroute to Maracaibo, Venezuela. The flight proceeded toward Maracaibo but met bad weather about two hours out and was forced to return to Albrook Field. The planes again took off about noon and proceeded to Maracaibo, this time finding clear weather.

The flight was met at Maracaibo by officials of the Lago Petroleum Corporation. After spending the night at the Lago camp, the flight left Saturday morning for Aruba Island, where landing was made at 10:30 a.m. Aruba is a small island, 14 miles long, in the center of the Netherlands West Indies. At Aruba, Mr. F.J. Campbell, manager of the Lago Petroleum and Transportation Corporation, met the officers and welcomed them to the site of the world's largest oil refinery.

Mr. Charles J. Colby, Manager of Industrial Relations, and Mr. J.F. Harrison, Production Manager of the refinery, made the visitors' stay a very pleasant one. They conducted a tour of inspection of the housing of the workers and entertained in a most hospitable manner.

Colonel Gilkeson paid his respects to the resident Governor of the island.

Due to internal conditions, the flight personnel obtained a first hand glimpse of the French Marines in maneuvers. A French cruiser and one destroyer were anchored at Aruba and had disembarked about 200 French Marines. The Marines had made request to the government to hold a parade, but had been refused.

The two B-18's took off and flew over the two French boats. They lowered their guns, started up the engines of

the airplanes on deck, and stood by saluting the Army planes.

The day before the flight landed at Aruba, the Netherlands government interned all Germans working or living on the island, and sent them to the island of Bonaire, also in the Netherlands West Indies. There they are being held prisoner.

The official visitors were taken on a tour of inspection through the island. The refinery employs about 2,000 Americans and about 5,000 persons in all. The production is on a 24-hour basis in three 8-hour shifts. The farms and houses are small but very neat and picturesque, giving air to the Dutch ancestry. The chief crop of the farms is cascara, and it is estimated that this small island produces about 80 percent of the world's cascara.

An interesting subject of study was the "mosquito fleet." These are small oil barges which run between Aruba and Maracaibo. They carry oil from the mainland to the refinery across the sand bars. Another part of the life on the island that proved interesting was the fact that all drinking water is imported from New York City. The water on the island is not usable.

The Lago Corporation has a fine program in operation for housing their employees. The barracks are similar to those used by the Army in the tropics. They are building a large, modern office building at the present time. It is constructed of glass brick. At the same time, bomb-proof shelters are being constructed for the civilians.

All is not work at Aruba. Fine deep sea fishing is found all around the tiny island. Baracuda and sail fish are plentiful and attract many sportsmen. Fine swimming pools and lighted tennis courts make life worth living. The heat of the daytime sun makes recreation during the day difficult, consequently the night sports.

The flight personnel regretted leaving the small island, but the itinerary called for speed, so reluctantly the party left Aruba, and those who had been so cordial, late Saturday afternoon.

The two Bombers went from Aruba to La Guaira, on the northern coast of Venezuela, where the party left the planes and motored 24 miles inland to Caracas. In that 24-mile ride, the rise was to 3,000 feet above sea level. The road from La Guaira to Caracas was built under the direction of the late President Gomez of Venezuela, and took 14 years to finish.

Captain Randall, Lieuts. Darcy and Cory were entertained at the American Embassy, while Colonel Gilkeson and Lieut. Colonel Eastham were received at the home of Major and Mrs. Burkett, Military Attache to Venezuela. Colonel Danielson and Major Howard had remained at Maracaibo to study housing conditions.

The American Embassy at Caracas is the former home of one of the sons of President Gomez, and is reportedly one of the finest mansions in South America. Gorgeous tapestries and mosaics adorn each room, and a chapel in one wing is complete even to the pipe organ. The visitors were given "all the comforts of home" and were shown the outlying country as well as the city of Caracas.

Caracas is renowned as the most expensive city in the world in which to live. Cigarettes cost sixty cents a package for standard brands. Bread, much of which is imported from the States, costs 34 cents a loaf. There is little done in the way of agriculture. The people are even too busy to grow vegetables and foodstuffs and, consequently, even rice is imported. The sole objective of all effort and labor is oil. The old boom days of Pennsylvania and Oklahoma were recalled.

Lieut. Dennison, Assistant Military Attache, and Mrs. Dennison, very graciously took the visitors through Caracas. The mosaic streets and the square which is filled with mahogany trees were very interesting. The public square and market place also proved of interest. The pastel shades in which the buildings were all painted found a place among the curios.

The narrow, dingy streets in one part of the town were in sharp contrast to the trees in another section thereof. The trees were loaded with orchids in full bloom. Traffic is strictly controlled in Caracas. No automobile, no matter of what vintage, may blow a horn operated from the battery. The old fashioned bulb type horns are used on every car, adding the personal touch to a mechanical "get out of the way."

The party was equally reluctant to leave Caracas, but on Sunday, at 2:30 p.m., the planes left for Maracaibo from La Guaira. At Maracaibo the visitors studied the oil fields and housing of the El Barco oil concession along the lower edge of Lake Maracaibo. This is rich oil country, but is inhabited by hostile tribes of Indians. They are very troublesome and make working and maintaining the field very difficult. Several efforts to make them friendly have failed, both on the part of missionaries and oil company officials.

The personnel of the flight were entertained Sunday night by officials of the Lago Petroleum Corporation. Mr. W.M. Hall, head of industrial relations, and Mr. W.S. Link, his assistant; Mr. E.E. Peake, manager of the camp; Mr. E.T. Warren, legal advisor, and Colonel Pascuale, of the Venezuelan Army, all made the visit very enjoyable.

On Monday morning, the flight left Maracaibo for Barranquilla, Colombia. While the stay at Barranquilla was a brief one, it proved interesting in at least one instance. While the party was dining at the airport, a Royal Dutch Airliner dropped in. Immediately a chat with its crew was in order. They spoke of their desire to be in Europe to protect their families and country instead of flying commercially. They also joked about their belief that they had a superior system of beam flying to ours.

The flight left Baranquilla about 1:00 p.m. Monday and flew past the Darien country, over the San Blas islands, and to Albrook Field, where a landing was made at about 4:15 p.m.

The flight was a complete success. The objective was accomplished and, at the same time, the assignment was enjoyable.

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INSIGNIA FOR FLIGHT SURGEONS

A suitable insignia, to be worn by Flight Surgeons while actually on duty with the Air Corps, is being sought. This insignia is to be worn on the left breast. Certain limitations are necessary: First, it is not desirable that the wings now used to denote flying ratings be used; and, second, it is not desired to use any modification of the present Medical Corps insignia. All readers of the News Letter are invited to submit designs to the Medical Division, Office of the Chief of the Air Corps, Washington, D.C.

The 82nd Observation Squadron, Moffett Field, Calif., commanded by Captain W.C. Sams, began two weeks of intensive field training on May 18th near Monterey, Cal.

Equipped with field packs, sleeping bags, arms and ammunition, the Squadron was prepared for war-time conditions. Six O-46 Observation airplanes are to be used in the maneuvers, which will consist of aerial gunnery, observation and reconnaissance work.

They tell of flames and splintered wood; and of twisted metal. "They" tell of wings tearing and of forced landings. The tyro tells of the solo flight and its hazards. The few of those stories that are true are highly dramatized by human imagination.

But who are "they" you ask - "they" who tell of blood and thunder? They are the men of the air. They are pilots who like to recount their greatest experiences on seconds of fright and drama. But those stories are a minute percentage of millions of flying hours, and thousands of planes and pilots.

I, too, as an American boy nearing the completion of nine months as a cadet in the Army Air Corps, have had my greatest experience.

You who need accidents, and life in jeopardy to be thrilled will not find my experience worth the reading. Those of you who think really living a sane, worthwhile life is a great experience will understand me.

It was twilight, and Friday. Another hard week behind me. It was also the last week of my three months of primary training in the Army Air Corps. Three months of a new and exhilarating experience. And now the shadows were creeping over the field that had seen my initiation into this new life. An Army training plane droned in from a test hop. A commercial transport slipped out of the last in the western sky. Then it came to me. My greatest experience!

Oh, yes, that was it! Progress, service, defense. Men of the air! What was that stanza from Tennyson's prophetic poem, Locksley Hall?

"Then I dipped into the future,
Far as human eye could see;
I saw the magic of the world,
And all the wonder that would be.
I saw the heavens filled with commerce,
Argosies of magic sails

"And pilots of the purple twilight,
Dropping down with costly bales."

Yes, a poet speaking fifty years ago saw what I saw that evening. I was a part now of a highly skilled element of modern civilization. Well paid, quartered, and fed, with a maximum of training and security. Heavens filled with commerce! That time had, indeed, come.

I was a member of the Army Air Corps! And I thought back over the early years of aviation, and its many struggles with crude equipment, and adverse public opinion as to its worth. Now I was able to take advantage of excellent in-

struction and highly precisioned equipment of the government. I could go into the commercial field with the confidence of a man well trained. If my country should ever need its great defenses against an invader I could intelligently defend my heritage. I was a part of the American scheme of things! And all in return for an honest effort and application in a field that boasts a safety factor far ahead of any other requiring work that has the elements of the human equation plus the normal chance expectancy of the laws of nature.

Yes, I was a part of that, and I could, in good time, plan a home and family with the knowledge and experience of this life offering me my place in the world.

The price? Good ringing blows of well directed effort and work. And I was a red-blooded American boy ready by virtue of being alive to pay that price. I thought of Kipling's poem, "If":

"If you can fill the unforgiving minute

With sixty seconds worth of distance run,

Yours is the earth and everything that's in it,

And - which is more - you'll be a man, my son!

A man! That was it. The Army Air Corps was offering me the privilege a hundred times over of being a real American man - a vital part of my country.

The sun was gone now. There was no narrow escape here. No wreckage, no scream of machinery out of control. Here was simply a western sky gone purple, a navigation book, a pipe glowing in the dusk, and the assuring knowledge that the Army Air Corps was giving me the chance to realize every man's ambition - to live with head in the clouds, but with feet on the ground.

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Within 24 hours of the President's address to the joint session of Congress, elaborate flying cadet procurement campaign was under way at the Training Detachment, Cal-Aero Training Corporation, Glendale, Calif., with nine radio stations contributing gratis announcements daily, and the publicity facilities of Cal-Aero and Curtiss-Wright Technical Institute, contracting schools, devoting full time to the work in cooperation with Captain Kenneth P. McNaughton, Air Corps, Commanding Officer, and Lieut. Charles J. Daly, Adjutant.

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A total of 459 Flying Cadets comprised the class which began training on May 18, 1940, at the nine civilian elementary flying schools selected by the War Department to give primary flying instruction, under the Air Corps Expansion Program. Of these 459 flying students, 44 are enlisted men of the Air Corps, Regular Army, and the remaining 415 are candidates from civil life. The distribution of these students among the nine civilian schools is given below, as follows:

Alabama Institute of Aeronautics.....	45
Chicago School of Aeronautics.....	30
Dallas Aviation School and Air College.....	70
Cal-Aero Training Corporation.....	42
Lincoln Airplane and Flying School.....	29
Parks Air College.....	45
Ryan School of Aeronautics.....	44
Spartan School of Aeronautics.....	96
Allan Hancock College of Aeronautics.....	58
Total.....	459

California, more often than not credited with the highest representation of native sons among the various States in entering classes of Army Air Corps flying students, is in the lead once more with 41 students, closely followed by New York with 39. The States of Illinois and Texas follow with 35 and 33, respectively. Other states which are represented by five or more students are Oklahoma with 25; Washington, 24; Oregon, 23; Massachusetts, 21; Pennsylvania, 19; Georgia, 17; Michigan and Missouri, 15 each; Alabama, Ohio and South Carolina, 12 each; Mississippi and New Jersey, 9 each; Wisconsin, 10; Nevada, 8; Iowa, 7; Arkansas and Kansas, 6 each; Connecticut and Utah, 5 each.

Among the various cities represented by students in the new class, Chicago, Ill., leads with 15, closely followed by Seattle, Wash., with 13. Other cities represented by three or more students are Los Angeles, Calif., with 9; New York City and Corvallis, Oregon, 8 each; Brooklyn, N.Y., 7; Columbia, S.C., 6; Glendale, Calif.; Detroit, Mich.; St. Louis, Mo.; Reno, Nevada; and Portland, Oregon, 5 each; Tuscaloosa, Ala.; Atlanta, Ga.; Philadelphia, Pa.; and Dallas, Texas, 4 each; Springfield and Waltham, Mass.; Tunica, Miss.; Cleveland and Akron, Ohio; Stillwater, Okla.; Pittsburgh, Pa.; San Antonio, Texas; Salt Lake City, Utah; and Milwaukee, Wis., 3 each.

Correction: Syracuse, N.Y., is also represented by five students.

The names and residences of the students of the new class are listed on pages 10 to 13, inclusive, of this issue of the News Letter.

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So anxious were the 45 Flying Cadets of Class 40-H to begin their military careers at the Air Corps Training Detachment, Cal-Aero Training Corporation, Glendale, Calif., that the majority of the future officer-pilots had reported nearly a week in advance of their orders.

The men were scheduled to begin flying on May 20th.

A meeting of Army-Navy representatives began at Wright Field, Dayton, Ohio, on May 21st to discuss standardization of certain specifications. Those attending the conference, which lasted through Thursday, May 23rd, included the following: Lieut. Commander W.S. Parr and Lieut. C.J. Pfingstag, U.S.N., Bureau of Aeronautics; Dr. Melville F. Peters, National Bureau of Standards; A.M. Blamphin and F.E. Richardson, Aeronautical Board; F.H. Highley and M. Paulovich, Naval Aircraft Factory; and W.J. Petrasky, Army-Navy Aeronautical Specification Unit, Naval Aircraft Factory.

Representatives of the Power Plant Laboratory, the Army-Navy Aeronautical Specification Branch, and the Specifications and Standards Branch represented the Materiel Division.

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DEATH OF LIEUT. P.G. MILLER

Wright Field was shocked to learn on May 17th of the death of Lieut. P.G. Miller, of the Armament Laboratory of the Materiel Division. Apparently, Lieut. Miller died in his automobile on May 16th, but the discovery was not made until the following day. He had been on extended sick leave recently and, although he had returned to his duties, he suffered from extreme nervousness and fatigues. He had been stationed at Wright Field since June, 1938, and had seen service also at Albrook Field, Panama Canal Zone, and Langley Field, Va.

Lieut. Miller was a graduate of the U.S. Military Academy of the Class of 1931. His remains were taken to Pittsburgh, Pa., his birthplace, for burial.

The sympathy of his many associates and friends is extended to his widow.

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WRIGHT FIELD OFFICERS FLY "SPITFIRE"

On May 15th, a group of Wright Field officers, consisting of Majors K.B. Wolfe, H.R. Yeager, Captains J.S. Mills, G.E. Price, P.E. Shanahan and Lieut. M.E. Bradley cleared for Buffalo, enroute to Ottawa, Canada, for the special purpose of trying out the British Supermarine Spitfire airplane. For comparative tests by the Canadians, an Army Pursuit plane, the Curtiss P-40, was flown to Ottawa. The officers returned to Wright Field on May 18th. An official report of the Spitfire tests was submitted to the Chief of the Air Corps.

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Professor D.K. Wood and 14 students of the Senior Aeronautical Engineering Class of Purdue University spent two days, May 11th and 12th, at the Materiel Division, Wright Field. This annual visit forms part of the curriculum each year of the Aeronautical Engineering Class of Pursue.

Professors of Aeronautics Alexander Klein and Bradley Jones, of New York University and University of Cincinnati, respectively, were visitors at Wright Field on May 21st.

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On Monday, May 6th, Lieut. Colonel C. J. Baker, Flight Surgeon at Wright and Patterson Fields since 1936, left to take up his new duties as Station Surgeon and Flight Surgeon of the Second Wing at Langley Field, Va.

Even before the inauguration of the Expansion Program, in the interests of which Colonel Baker has accomplished surprising results, his service at the two fields was outstanding. In small as well as important matters pertaining to the physical well being of personnel, his physician's aid, quietly and capably administered, could be counted upon, and he leaves here a great store of regard in the hearts not only of his assistants and associates but also in those of the large military and civilian family which makes up the personnel of the two fields. His outstanding service, however, is a separate story.

The main station hospital for Wright and Patterson Fields has since the last war been located at McCook and Wright Fields, with a small emergency station at Patterson Field for the dispensing of first aid. More recent years have seen the establishment of permanent officers' quarters at Patterson Field. In addition, since the adoption of the Expansion Program, temporary barracks for enlisted men have been added, and quartered in them are between 1150 and 1250 men, of whom 1,000 belong to the Air Corps. Prior to the Expansion Program, 150 enlisted men answered the needs of both fields.

These changes have naturally thrown the weight of medical need at Patterson rather than at Wright Field, with the result that it appeared essential to have some sort of hospital immediately available. Appropriations for a suitable hospital building were not available; and, even if they had been, some sort of stop-gap for immediate use was essential. The problem was to provide a hospital of sufficient size at Patterson Field, transferring to it medical equipment from Wright Field, except that necessary for routine and first aid emergency purposes, and obtaining additional equipment with the limited funds at hand.

At Patterson Field there was an old wartime hospital building which had been erected in 1917. A few of the front rooms had been used for Patterson Field first aid and emergency cases. The remainder of the building, which had not been used for 15 years, had fallen somewhat into disrepute, floors having sunken and termites having man-

aged their usual evil holiday. The place, however, was all that was available for hospital purposes.

Colonel Baker and his assistants looked over the old building, the estimated longevity of which at the time of erection had been five years, and saw possibilities. Floors could be braced, passageways blocked up, doors put in walls, windows enlarged, scrub and paint brushes dexterously wielded. A small budget was cautiously used for necessary additional equipment. All old furnishings not formerly white were made white but, where possible, stainless steel new furnishings were obtained, the latter neither chipping off nor corroding.

What was accomplished in a brief period of time with good will, plenty of ideas, and interested assistance on the part of all concerned, has proved no less than remarkable. Out of comparatively nothing, a clean, light, 50-bed hospital now flourishes. Besides the extensive examining rooms, to which more space is devoted than in the usual hospital because of the enormous number of routine physical examinations for officers, reserve officers, enlisted men, Air Corps cadet applicants, and others that must be conducted at this station, there are a room for light treatment and physiotherapy, dental offices, ear, nose and throat treatment room, eye examination room, pharmacy, laboratory, operating room with oxygen tent, latest operating lamp and anesthesia equipment, X-Ray room, sterilizing room, several wards - including one for isolation purposes, dining room for patients and attendants, a large modernly equipped kitchen, and supply and storage rooms where beds, stretchers, mattresses, drugs, oxygen tanks, and other supplies, large and small, are arranged in a neat array. The staff consists of seven medical officers, one dental officer, and 53 enlisted men. While the building itself is of ancient vintage, the equipment that Colonel Baker has been able to assemble is of the most modern type and, with a capable staff in attendance, there is no reason why all personnel should not receive the best of medical aid.

The maintenance of a building of this type is, of course, costly, and it is greatly hoped that a new permanent hospital will be an eventual possibility. Plans are now up for approval.

On the day of our visit the wards were partially filled, and the attendants, from cooks to doctors, seemed

(Continued on Page 15).

Alabama Institute of Aeronautics, Inc.,
Tuscaloosa, Ala.

Lanford, S.R.	Anniston, Ala.
Burleson, N.B.	Auburn, Ala.
Cunningham, J.B., Jr.	Birmingham, Ala.
Kiser, G.E.	Birmingham, Ala.
Mason, H.H.	Eclectic, Ala.
Granberry, J.M., Jr.	Montgomery, Ala.
Alexander, J.E.	Tuscaloosa, Ala.
DeBriere, S.L.	Tuscaloosa, Ala.
Hamilton, E.W.	Tuscaloosa, Ala.
Spears, W.J.	Tuscaloosa, Ala.
Jackson, E.R.	Wilson Dam, Ala.
Ellstrom, G.O.	Hartford, Conn.
Wright, T.W.	Alpharetta, Ga.
Truelove, D.V.	Athens, Ga.
Wilson, L.F., Jr.	Atlanta, Ga.
Boyle, J.F.	Springfield, Mass.
Collins, H.E., Jr.	Springfield, Mass.
Cowdery, B.W.	Needham, Mass.
Swindle, E.T., Jr.	Heathman, Miss.
Shake, N.A.	Manchester, N.H.
Beck, H.A.	Livingston, N.J.
Blackstock, Roy	Brooklyn, N.Y.
Spem, Seymour	Brooklyn, N.Y.
Kahan, Moe	Flushing, N.Y.
Best, James F.	Hamburg, N.Y.
Kaufman, L.R.	New York, N.Y.
Connelly, M.R.	Syracuse, N.Y.
Allen, C.W.	Hemp, N.C.
Burke, J.R.	Pittsburgh, Pa.
Cappuccilli, A.A.	Warren, R.I.
Bower, R.D.	Charleston, S.C.
Willis, M.D.	Clemson, S.C.

Chicago School of Aeronautics, Glenview, Ill.

Ahlbin, Fred E.	Bridgeport, Conn.
Geddes, T.W.	Stamford, Conn.
Carroll, T.L.	W. Hartford, Conn.
Callahan, E.H.	Washington, D.C.
Hersey, E.F.	Boston, Mass.
Sweeney, D.J.	Chicopee, Mass.
Murphy, E.W.	Dorchester, Mass.
Murphy, J.F.	Dorchester, Mass.
Tabb, D.C.	Everett, Mass.
Newcombe, W.H.	Fitchburg, Mass.
Crane, V.M.	Manchester, Mass.
Gordon, Philip	Medford, Mass.
Curtis, F.M., Jr.	Milton, Mass.
Dacey, T.J., Jr.	Newton, Mass.
Schreiber, L.A.	Plymouth, Mass.
Bird, J.R.	Reading, Mass.
Rindone, F.J.	Roxbury, Mass.
Hockenberry, F.C.	Springfield, Mass.
Lawson, D.C.	Waltham, Mass.
McInnis, V.J.	Waltham, Mass.
Power, W.S.	Waltham, Mass.
Bacsik, P.T.	Trenton, N.J.
Fluharty, J.W.	Bronx, N.Y.
Bachers, G.A.	Rochester, N.Y.
LaBarge, G.F.	N. Syracuse, N.Y.
Draganjac, N.C.	Etna, Pa.
Linberg, E.F.	Morrisdale, Pa.
Ford, W.B., Jr.	Pittsburgh, Pa.
Danscren, F.C.	Johnston, R.I.
Moskowitz, Lewis	Paterson, N.J.

Dallas Aviation School and Air College,
Dallas, Texas

Mills, R.T.
O'Brien, H.R.
Hobbs, J.W.
Freeman, H.T., Jr.
Lanford, H.W.
O'Donnell, A.J., Jr.
Hatcher, T.W.
Moss, R.C.
Higginbotham, L.H.
Cole, J.M.
West, W.G.
Birdsong, J.Y.
Fedigan, J.J.
Lundquist, G.E.
Rock, N.J., Jr.
Stewart, W.S.
Calvert, L.A.
Linebaugh, P.L.
Robinson, E.W.
Gilmore, E.B.
Kanaga, R.A.
Flynn, R.L.
Mitchim, K.W.
Stapleton, J.R.
Chandler, L.D.
Coen, O.H.
Myers, G.T., III
Atwater, A.S.
Edwards, C.G.
Stralser, B.J.
Tadlock, W.D.
Clark, J.C.
Dendy, Julian, Jr.
McClellan, P.S.
Priester, N.E., Jr.
Smok, T.A.
Townsend, J.C., Jr.
Long, L.D.
Watson, C.V.
McClure, G.D.
Allen, W.C., Jr.
Harrison, E.F.
Palmer, R.A.
Romere, S.A.
Washburn, W.R., Jr.
Carroll, Davy E.
Kissinger, R.T.
Crockett, D.S.
Duncan, R.P.
Hoover, Robert
Lillard, J.W.
Shanks, R.C., Jr.
Goetzke, K.H.
Denson, H.T., Jr.
Doggett, E.G.
Atkins, J.L., Jr.
Swenson, Edward
Stewart, L.H.
Back, James D., Jr.
Barriock, J.F.
Wheeler, R.H.
Taylor, H.R.
Anderson, I.G.
Frost, John II

Conway, Ark.
Miami Springs, Fla.
Milton, Fla.
Athens, Ga.
Atlanta, Ga.
Atlanta, Ga.
Atlanta, Ga.
Doerun, Ga.
Elberton, Ga.
Ft. Benning, Ga.
Manchester, Ga.
Newborn, Ga.
Chicago, Ill.
Chicago, Ill.
Chicago, Ill.
University, La.
Ann Arbor, Mich.
Detroit, Mich.
Ferndale, Mich.
Highland Park, Mich.
Highland Park, Mich.
Tunica, Miss.
Tunica, Miss.
Tunica, Miss.
West Point, Miss.
Thomson, Ill.
Summerville, Ga.
Boone, N.C.
Wilmington, N.C.
Detroit, Mich.
Raleigh, Miss.
Columbia, S.C.
Columbia, S.C.
Columbia, S.C.
Columbia, S.C.
Columbia, S.C.
Columbia, S.C.
Columbia, S.C.
Laurens, S.C.
Laurens, S.C.
Chattanooga, Tenn.
Memphis, Tenn.
Austin, Texas
Beaumont, Texas
Beaumont, Texas
Cleburne, Texas
Coleman, Texas
College Station, Texas
Dallas, Texas
Dallas, Texas
Dallas, Texas
Dallas, Texas
Dallas, Texas
Grand Prairie, Texas
Harlingen, Texas
Houston, Texas
Joshua, Texas
Kingsville, Texas
Manor, Texas
McGregor, Texas
McLean, Texas
Odessa, Texas
Pleasanton, Texas
Robstown, Texas
San Antonio, Texas
San Antonio, Texas

Dallas Aviation School and Air College

Chandler, T.E.	Newberry, S.C.
Garrison, E.V.	San Antonio, Texas
Steedman, E.A.	Sherman, Texas
Garland, B.A.	Waco, Texas
Spotswood, H.C.K.	Petersburg, Va.

Cal-Aero Training Corporation, Glendale, Calif.

Fleming, T.B.	Glendale, Calif.
Eratrix, Donald	Glendale, Calif.
Favasti, R.E.	Glendale, Calif.
Work, J.N.	Long Beach, Calif.
Boss, E.A.	Los Angeles, Calif.
Evans, W.S.	Los Angeles, Calif.
Katz, L.S.	Los Angeles, Calif.
McGarry, W.D.	Los Angeles, Calif.
McLaughlin, F.J.	Los Angeles, Calif.
Miller, P.B.	Los Angeles, Calif.
Nunnenkamp, L.	Los Angeles, Calif.
Pfeiffer, G., Jr.	Los Angeles, Calif.
Weiner, I.I.	Los Angeles, Calif.
Shea, J.H.	Riverside, Calif.
Garland, W.J.	San Pedro, Calif.
Pound, W.R., Jr.	Santa Monica, Calif.
Burman, A.H.	Fargo, N.D.
Fredrikson, G.F.	Fargo, N.D.
Theodos, G.D.	Rugby, N.D.
Jannsen, E.M.	Beaverton, Ore.
Bailey, B.R.	Corvallis, Ore.
Madison, R.M.	Corvallis, Ore.
Smyth, P.B.	Corvallis, Ore.
Hutchinson, T.D.	Kelix, Ore.
Smith, L.M.	Medford, Ore.
Goodyear, E.E.	Pendleton, Ore.
Haney, O.T.	Portland, Ore.
Murray, D.G.	Portland, Ore.
Williams, R.L.	Portland, Ore.
Bonebrake, R.R.	Roseburg, Ore.
Frantz, H.D.	Salem, Ore.
Holzappel, J.F.	The Dalles, Ore.
Taylor, W.H.	Rapid City, S.D.
McElhoe, G.C.	Snoqualmie Falls, Wash.
Mattson, C.F.	Summer, Wash.
Campbell, F.D.	Tacoma, Wash.

Lincoln Airplane and Flying School, Lincoln, Nebraska

Moore, Wilson	Conway, Ark.
Latourette, H. H.	Jonesboro, Ark.
Avery, A.J., Jr.	Arlington Heights, Ill.
Colburn, I. T.	Chicago, Ill.
Jones, Emrys A.	Chicago, Ill.
Valorz, E.H.	Chicago, Ill.
McHaffie, Maurice	Denville, Ind.
Cassell, P.C.	Indianapolis, Ind.
Morris, J.J.	Oakland, Ind.
Knight, J.W.	Camp Beauregard, La.
Schindler, J.D., Jr.	Sturgeon, Miss.
Reissaus, C.A.	Cape Girardeau, Mo.
Downing, H.L.	Chilhowee, Mo.
McAtee, Gerald P.	Clayton, Mo.
Santoro, A.L.	Kansas City, Mo.
Phillips, C.E.	St. Louis, Mo.
Underwood, G.W., Jr.	St. Louis, Mo.
Wiss, H.W.P.	St. Louis, Mo.
Ward, C.C.	Rolla, Mo.
Specht, F.J.	White Plains, N.Y.
Sather, Harley	Ryder, N.D.

Davis, Howard A.
Ackerman, H.M.
Levine, Robert
Newbauer, J.A.
Steale, D.C.
Raudebaugh, T.C.
Scott, Ray L.

Akron, Ohio
Cleveland, Ohio
Columbus, Ohio
Columbus, Ohio
Akron, Ohio
Dayton, Ohio
Elk Point, S.D.

Parks Air College, East St. Louis, Ill.

Berryman, W.C.
Handy, W.J.
Bell, J.H.
Baur, Sol.
Finnie, T.W.
Phillips, Michael
Valko, J.R., Jr.
Kutch, Fred
Berkowitz, H.N.
Galler, Jack
Levy, C.E.
Pullman, Irving
Rothstein, George
Krahl, A.W., Jr.
Whitely, W.C., Jr.
Gottlieb, A.A.
Angiolini, Aldo
Malone, B.G.
Langbein, J.D.
Boselli, T.J.
Dale, J.D.
Pettit, Ronald S.
Schwartz, Wm.
Smith, C.A., Jr.
Mead, Bruce S., Jr.
Krieger, A.E., Jr.
Ansley, F.A.
Garrett, P.C.
Hartbrodt, F.A.V.
Andes, I.F.
Griffith, J.G.
Brickner, L.G.
Hamilton, H.G.
Morrow, L.M.
Johnston, L.K.
Dittmann, E.E., Jr.
Sharp, A.H.
Trearse, Albert
Woltemate, R.C.
Schroth, F.D.
Kruzel, J.J.
Popham, W.L., Jr.
Loehrke, J.E.
Mueller, E.H.
Marcan, D.J.

Washington, D.C.
Springfield, Mass.
Camden, N.J.
Hillside, N.J.
New Brunswick, N.J.
New Brunswick, N.J.
Passaic, N.J.
Astoria, L.I., N.Y.
Brooklyn, N.Y.
Brooklyn, N.Y.
Brooklyn, N.Y.
Brooklyn, N.Y.
Brooklyn, N.Y.
Elmhurst, L.I., N.Y.
Glen Cove, N.Y.
Jackson Heights, N.Y.
Long Island City, N.Y.
Nanahasset, L.I., N.Y.
Mount Vernon, N.Y.
New York, N.Y.
New York, N.Y.
New York, N.Y.
New York, N.Y.
New York, N.Y.
Roxbury, N.Y.
Salem, N.Y.
Syracuse, N.Y.
Syracuse, N.Y.
Woodside, N.Y.
Akron, Ohio
Cincinnati, Ohio
Cleveland, Ohio
Toledo, Ohio
Aliquippa, Pa.
Clairton, Pa.
Philadelphia, Pa.
Philadelphia, Pa.
Philadelphia, Pa.
Scranton, Pa.
Wilkes Barre, Pa.
Wilkes Barre, Pa.
Milwaukee, Wisc.
Milwaukee, Wisc.
Milwaukee, Wisc.

Ryan School of Aeronautics, Ltd., San Diego, Calif.

Clark, J.L.
Merrill, K.N.
Huffman, Orland G.
Misij, Wm., Jr.
Hayes, J.W., Jr.
Redington, W. M.
Walther, G.A.
Ball, A.D.
Parsons, Wm. A.
Cobeago, M.A.
Etchemondy, J.M.
Kinkel, D.E.

Phoenix, Ariz.
Safford, Ariz.
El Cajon, Calif.
Los Angeles, Calif.
San Diego, Calif.
Denver, Colo.
Denver, Colo.
Moscow, Idaho
Ely, Nevada
Reno, Nevada
Reno, Nevada
Reno, Nevada

Ryan School of Aeronautics, Ltd. (Cont'd)

Tranter, J.C.	Reno, Nevada
Wikstrom, F.E.	Reno, Nevada
Mornston, H.E.	Sparks, Nevada
Powers, W.W.	Sparks, Nevada
Ortega, J.A.	Albuquerque, N.M.
Shaefer, R.R.	Albuquerque, N.M.
Homra, J.A.	Portales, N.M.
Ingenhutt, W.W.	Corvallis, Ore.
Patton, C.P.	Corvallis, Ore.
Benson, N.S.	McMinnville, Ore.
Felton, G.B.	Portland, Ore.
MacPherson, J.G.	Portland, Ore.
Williamson, J.A.	Brownwood, Texas
Cherry, R. W.	Houston, Texas
Wahlstrom, N.O.	Laketown, Utah
Christensen, H.R.	Salt Lake City, Utah
McGhie, R.D., Jr.	Salt Lake City, Utah
Peterson, Ray	Salt Lake City, Utah
Hatch, H.E.	Woods Cross, Utah
Brooks, H.W.	Seattle, Wash.
Cowan, J.H.	Seattle, Wash.
Cox, J.W., Jr.	Seattle, Wash.
Graham, George A., Jr.	Seattle, Wash.
Johnson, R.S.	Seattle, Wash.
Ludwig, R.H.	Seattle, Wash.
Moore, A. K.	Seattle, Wash.
Shore, M.B.	Seattle, Wash.
Stevenson, H.L.	Seattle, Wash.
Storkan, D.K.	Seattle, Wash.
Voellmeck, J.W., Jr.	Seattle, Wash.
Wormser, V.J.	Seattle, Wash.
Edris, G.L.	Tacoma, Wash.

Spartan School of Aeronautics, Tulsa, Okla.

Pierce, J.R., Jr.	Ashdown, Ark.
Phillips, J., Jr.	Jasper, Ark.
Criner, D.W.	Searcy, Ark.
Clinkscales, R.S.	Atlanta, Ga.
Millar, J.R., Jr.	Hapeville, Ga.
Smith, W.A., Jr.	Savannah, Ga.
Steib, Steven F.	Aurora, Ill.
Vacek, Fred J., Jr.	Berwyn, Ill.
Plourde, W.W.	Brookfield, Ill.
Brock, R.C.	Chicago, Ill.
Friedman, M. N.	Chicago, Ill.
Jarman, J.T.	Chicago, Ill.
Malloy, M.D.	Chicago, Ill.
Monaco, John, Jr.	Chicago, Ill.
Morgan, Howard W.	Chicago, Ill.
Rogers, W.C.	Chicago, Ill.
Waskowitz, F.T.	Chicago, Ill.
Olasen, J.S.	Woodbridge, Conn.
Benes, C.G.	Cicero, Ill.
Gravenhorst, E.H.	Effingham, Ill.
Albanese, F.T.	Evanston, Ill.
Kinsley, R.R.	Evanston, Ill.
Stites, J.O.	Franklin Park, Ill.
Weaver, J.H.	Fresport, Ill.
Fenoli, J.R.	Mount Vernon, Ill.
Winemiller, P.P.	Naperville, Ill.
Stephens, R.G.	Oak Park, Ill.
Thompson, D.M.	Oak Park, Ill.
Pixley, J.E.	Ottawa, Ill.
Schinz, A. W.	Ottawa, Ill.
Marr, L.F., Jr.	Detroit, Mich.
Stevens, C.J.	Detroit, Mich.
Waite, A.E.	Detroit, Mich.
Valusek, John, Jr.	Flint, Mich.

Chapel, R.H.
Lane, G.V., Jr.
Porter, J. W.
Schramm, H.F.
Burke, P.M.
Reese, W.G., Jr.
Rea, Amadeo
Smith, Robert E.
Mesita, J.V.
Perna, A.J.
Welsh, R.J.J.
Hoover, W.H.
Brown, E.D.
Obert, D.L.
Stockett, M.W.
Smith, Robert E.
Browers, C.E.
Albright, Clay
Thompson, F.R.
Burke, A. M.
Stanton, C.L.
Rice, Lewis D.
Culbertson, Kline O.
Kelley, W.J.
Burch, M.J.
Ballard, Carl V.
Miner, J.W., Jr.
Hays, N.F.
Lackey, J.W.
Levee, D.B.
Walker, F.L.
Bowlin, P.F.
Nettles, J.E.
Shero, A.R.
Moslener, L.G., Jr.
Clark, C.H.
Bedle, R.L., Jr.
Davis, D.W., Jr.
Friske, N.E.
Turk, Joseph
Cross, C.H.
Larson, C.W.
Ellis, A. J.
Davis, Wm. O.

Allan Hancock College of Aeronautics, Santa Maria, Calif.

Long, R.N.
Long, R.M.
Puerta, F.J., Jr.
Ireland, F.R.
Martens, R.C.
LaChasse, A.W.
Blanton, N.H.
Dempster, K.C.
Catton, J.J.
Webb, R.
Conradi, A., Jr.
Martensen, J.K.
Haas, C.R.
Hayes, J.F.
Luque, J.A.
Salisbury, C.F.
Whidden, J.D.
Witherspoon, W.L.
Vifquain, R.M.
Irwin, R.B.
Krebs, L.F.
McDonald, E.A.
Strait, Matthew D.
Allard, C.A.

Jackson, Mich. asiffa
Selfridge, Mich.
St. Louis, Mo. asiffa
St. Louis, Mo. asiffa
East Cleveland, Ohio asiffa
Grafton, Ohio asiffa
New York, N.Y. asiffa
Fairhaven, N.Y. asiffa
Syracuse, N.Y. asiffa
Mineola, N.Y. asiffa
Ottawa, Ill. asiffa
Altus, Okla. asiffa
Apache, Okla. asiffa
Apache, Okla. asiffa
Bethany, Okla. asiffa
Cooperton, Okla. asiffa
Cromwell, Okla. asiffa
El Reno, Okla. asiffa
El Reno, Okla. asiffa
Grandfield, Okla. asiffa
Jenks, Okla. asiffa
Frederick, Okla. asiffa
Kingfisher, Okla. asiffa
Lexington, Okla. asiffa
Marietta, Okla. asiffa
Norman, Okla. asiffa
Oklahoma City, Okla. asiffa
Stillwater, Okla. asiffa
Stillwater, Okla. asiffa
Stillwater, Okla. asiffa
Stringtown, Okla. asiffa
Tulsa, Okla. asiffa
Wagoner, Okla.
Wilburton, Okla.
Monaca, Pa.
Pittsburgh, Pa.
Charleston, S.C.
Madison, Wisc.
Greenwood, Wisc.
Platteville, Wisc.
South Range, Wisc.
Wonebec, Wisc.
Hampton, Va.
Bronx, N.Y.
Burbank, Calif.
Burbank, Calif.
Berkeley, Calif.
Casmalia, Calif.
Claremont, Calif.
Glendale, Calif.
Mar Vista, Calif.
Oakland, Calif.
Pacific Palisades, Calif.
Petaluma, Calif.
Piedmont, Calif.
Pomona, Calif.
Redwood City, Calif.
Sacramento, Calif.
San Leandro, Calif.
Santa Ana, Calif.
Van Nuys, Calif.
Nampa, Idaho
Ames, Iowa
Estherville, Iowa
Fonda, Iowa
Iowa City, Iowa
Milton, Iowa
Arkansas City, Kans.
18482, A.C.

Allan Hancock College of Aeronautics (Cont'd).

Burton, J.C.	Arkansas City, Kans.
Dusenbury, J.A.	Anthony, Kans.
Anderson, J.P.	Hutchinson, Kans.
McCowan, M.S.	Leoti, Kans.
Vargas, M.J.	Gustine, Calif.
Hanson, B.E.	Baudette, Minn.
Messenger, L.C.	Minneapolis, Minn.
Halbert, H.T.	St. Paul, Minn.
Williams, J.H.	Cape Girardeau, Mo.
Alexander, R.B.	Payette, Mo.
Lutz, J.F.	Fulton, Mo.
Murphy, R.E.	St. Louis, Mo.
Gordon, M.K., Jr.	Bozeman, Mont.
Stastny, L.R.	Lincoln, Nebr.
Arnoldus, R.T.	Corvallis, Ore.
Busch, K.N.	Corvallis, Ore.
Rawls, J.A., Jr.	Corvallis, Ore.
Parsons, L.F.	Multnomah, Ore.
Robinson, R.W.	Corvallis, Ore.
Hale, Z.I.	Abilene, Texas
Wagner, F.S.	Fort Worth, Texas
Carey, P.S.	Cheney, Wash.
Swannack, G.E., Jr.	Ephrata, Wash.
Tempest, L.T.	Opportunity, Wash.
Peaslee, J.C.	Seattle, Wash.
Foster, R.T.	Spokane, Wash.
Potter, R.A.	Spokane, Wash.
Robins, Donald D.	Woodland, Wash.
Moeller, B.A., Jr.	Honolulu, T.H.

NOTE: All of the above listed students were appointed Flying Cadets from civil life.

FLYING CADETS - ENLISTED MENAlabama Institute of Aeronautics, Inc.

Turner, Ernest	Floral, Ala.
Albrook Field, Canal Zone	
Kimsey, W.L.	Denver, Colo.
Mitchel Field, N.Y.	
Whiddon, David T.	Sneads, Fla.
Maxwell Field, Ala.	
Cannon, Hubert R.	Americus, Ga.
Maxwell Field, Ala.	
Gilbert, Roy	Fort Myers, Fla.
Maxwell Field, Ala.	
Seitzinger, Bernard K.	Brighton, Iowa
Fort Benjamin Harrison, Ind.	
Baker, H.B.	Cinda, Ky.
France Field, Canal Zone	
Watkins, J.D.	Jackson, Miss.
Barksdale Field, La.	
Aaron, Wm. D.	Moorhead, Miss.
Maxwell Field, Ala.	
Guerra, S.R.	Maywood, N.J.
Mitchel Field, N.Y.	
McCool, Delbert E.	Tidioute, Pa.
Mitchel Field, N.Y.	
Davidson, H.I.	Towanda, Pa.
Mitchel Field, N.Y.	
Duganne, J.A.	Altoona, Wisc.
Barksdale Field, La.	

Dallas Aviation School and Air College

Garcia, Raul	Brownsville, Texas
Randolph Field, Texas	

Cal-Aero Training Corporation

Harris, Richard C.	Glendale, Calif.
A.C. Detachment, Glendale, Calif.	
Allen, Barnett S.	Grace, Idaho
Hamilton Field, Calif.	
Hoss, Jerome H.	Ness City, Kans.
Hamilton Field, Calif.	
Thompson, Berry P.	Judith Gap, Mont.
Moffett Field, Calif.	
Moore, Henry C., Jr.	Spokane, Wash.
Moffett Field, Calif.	
Cobb, M.B.	Camp Ord, Calif.

Lincoln Airplane and Flying School

Brereton, J.R.	Emmetsburg, Iowa
Chamute Field, Ill.	

Spartan School of Aeronautics

Omyk, Charles J., Jr.	Chicago, Ill.
Scott Field, Ill.	
Yengst, Craig M.	Galesburg, Ill.
Chamute Field, Ill.	
Morehead, James R.	Moccasin, Ill.
Chamute Field, Ill.	
Vose, Marshall T.	Farmington, Me.
Langley Field, Va.	
McDuffee, Paul G.	Grand Rapids, Mich.
Selfridge Field, Mich.	
Richmond, Manley O.	Marshall, Mich.
Scott Field, Ill.	
Neal, Robert W.	Muskegon, Mich.
Selfridge Field, Mich.	
Lutes, Lyman C.	Edinburg, Ind.
Fort Sill, Okla.	
Howenstein, Wm. N.	Jackson, Nebr.
Chamute Field, Ill.	
Hover, Robert E.	New York, N.Y.
Scott Field, Ill.	
Smith, Robert H.	Cooperton, Okla.
Selfridge Field, Mich.	
Jones, John E.	Lawton, Okla.
Fort Sill, Okla.	
Osak, Andrew	Duquesne, Pa.
Scott Field, Ill.	
Barrons, William T.	E. Mauch Chunk, Pa.
Langley Field, Va.	
Olson, Clifford B.	White River, S.D.
Chamute Field, Ill.	
Keever, James E., Jr.	Ennis, Texas
Langley Field, Va.	
Winburn, Thomas H.	Rockport, Texas
Langley Field, Va.	
Gregg, Harry W.	Carrollville, Wisc.
Selfridge Field, Mich.	

Allan Hancock College of Aeronautics

Jones, Richard V.	Cottonwood, Calif.
Moffett Field, Calif.	
Piker, Preston	Santa Ana, Calif.
March Field, Calif.	
Henggeler, Francis J.	Clyde, Mo.
Hickam Field, T.H.	
Van Haur, James P.	Missoula, Mont.
Hamilton Field, Calif.	
Sharp, Frank A.	Hamburg, N.Y.
Wheeler Field, T.H.	

REOPENING OF ARMY AERONAUTICAL MUSEUM By the Materiel Division Correspondent

The Army Aeronautical Museum, Wright Field, Ohio, which at the inauguration of the Expansion Program was closed in order that all energies might be bent to that single aim, was recently opened to the general public. The reopening was announced by Colonel Oliver P. Echols, Assistant Chief of the Materiel Division, in response to a growing number of requests from local civilian organizations and based upon the fact that because of its location visitors could be directed to the Museum and returned to the gate without in any way interfering with the work of the laboratories. Hours were arranged with this special aim in view.

The Museum will be open during the week from Monday to Friday, inclusive, from 9:00 a.m. to 2:30 p.m., and on Saturday from 9:00 a.m. until 11:00 a.m. It will be closed on Saturday afternoons, Sundays and holidays.

From January 1, 1939, until September 18, 1939, the closing day, 79,282 visitors checked in at the Museum. They came from all over the United States. From these figures some idea may be obtained of the public appeal contained in the Air Corps exhibits. The months during which visitors have not been admitted have not been idle for the Museum curator and his assistants. Several new exhibits have been added, among them notably a Bleriot airplane.

The collection of engines, which is most complete, shows types ranging from those used by the Wright Brothers up to and including modern models. These had not heretofore formed part of the Museum displays. They have now been cleaned, repaired and labeled. Some have been sectionalized for study, and some converted into working models. Together they form an outstanding demonstration of the development of the gasoline power plant as adapted to aircraft uses.

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The 16th Pursuit Group, as a component of Albrook Field, recently underwent the annual inspection of the Commanding General of the Panama Canal Department, Major General Van Voorhis, who with his entire staff, accompanied by a group of visiting officers from Costa Rica, occupied the reviewing stand, while the entire personnel of Albrook Field passed in ground and aerial review. All organizations, departments and activities were subsequently inspected. Apparently all outfits were in good condition, with the 44th Recon. Sqdn., attached to the Group, receiving special commendation.

LAUNCHING OF AIR CORPS RESCUE BOATS

Within the past several weeks, three of five rescue boats constructed for the Air Corps have been launched. These boats, which will be used for rescue purposes in case of forced landings of aircraft in the water, have a total length of 72 feet, with a beam of 15 feet, draft 3½ feet, and displacement of 32 tons. The power plant comprises two Hall Scott marine engines developing 575 horsepower, each driving two screws, with provision made for a third engine and a screw if additional power and speed are required. Approximately one thousand gallons of gasoline are carried, a supply deemed sufficient for 25 or 26 hours' run at a cruising speed of 18 miles per hour.

These boats are capable of a top speed in excess of 30 miles per hour. Equipped with radio receiving and transmitting sets, ship to ship, ship to shore and ship to airplane communication will be possible. Each boat is also equipped with remote controls that permit the captain to control the engines from the bridge.

Available in the aft part of the boat are dispensary facilities for rendering first aid to injured personnel. Other accessories include life saving equipment, a shoulder line throwing gun, acetylene cutting torches, extinguishers, etc. Provision is also made for a "bridle" hitch for use in towing disabled aircraft. Each boat is also equipped with searchlights and other standard ship accessories. The construction of the hull follows closely standard Coast Guard practice, and by extending the engine bed bearers as far forward as possible, additional strength is gained. The engine room is protected by steel bulkheads and is equipped with fire extinguishers. A Cape Cod dory is placed on the deck.

Four men comprise the crew of the rescue boat, consisting of the captain, engineer and two deckhands. The cabin of the boat is streamlined to cut down wind resistance.

The Air Corps fields to which one of these rescue boats will be assigned are Langley Field, Va.; Boringen Field, Puerto Rico; MacDill Field, Tampa, Fla.; France and Albrook Fields, Panama Canal Zone.

The first one of these rescue boats was launched on May 4th, the ceremony taking place at the docks of the Greenport Basin and Construction Co., Long Island, N.Y. Mrs. Douglas B. Netherwood, wife of the Commanding Officer of Mitchel Field, N.Y. (Colonel Netherwood), was the sponsor, and the boat was named the "Major General William L.

Kenly, who died on January 11, 1928.

General Kenly, during the World War, served as Chief Aviation Officer of the American Expeditionary Forces in France for a period of approximately six months, in the course of which he completed the skeleton organization of the American Aviation Service in France. Returning to the United States, he was assigned to duty as Director of Military Aeronautics. He was retired from the military service on October 31, 1919.

The second rescue boat, christened the "Major General Charles T. Menoher," was launched on May 18, 1940, Mrs. Cole, wife of Lieut. Colonel Ross F. Cole, of Mitchel Field, N.Y., acting as sponsor.

General Menoher, who commanded the 42nd (Rainbow) Division in France during the World War, succeeded General Kenly as the head of the Army aviation service. He served as Director of Air Service in Washington from December 23, 1918, to October 4, 1921, following which he was assigned as Commanding General of the 9th Corps Area. He died in Washington, D.C., August 12, 1930.

The third rescue boat, named in memory of Brigadier General William Mitchell, was launched on June 1, 1940, the wife of Lieut. Colonel Richard H. Ballard, Air Corps, of Mitchel Field, N.Y., acting as sponsor.

General Mitchell was a noted war-time pilot, whose military career is probably familiar to all those who have followed the progress of military aviation in America. While overseas with the American Expeditionary Forces, he held a number of very responsible positions, and for displaying bravery and performing exceptional service as a pilot over the battle lines he was decorated with the Distinguished Service Cross. He served as Assistant to the Chief of the Army Air Service in Washington for a period of about four years, and resigned from the service on February 1, 1926. He died on February 19, 1936.

Wright Field, Dayton, Ohio, was honored on Monday, May 6th, by a brief visit from the Secretary of the Treasury, the Hon. Henry Morgenthau, Jr., who was returning to Washington from a trip to the West. General George H. Brett, Chief of the Materiel Division, met Mr. Morgenthau at Indianapolis, Ind., and accompanied him to Wright Field. After a brief conference, Mr. Morgenthau continued his journey.

RESIGNATION OF MR. KNISLEY

Mr. A. Ward Knisley, who has been associated with the Armament and Equipment Laboratories of the Air Corps Materiel Division, Wright Field, Ohio, since 1929, resigned to accept a position with the Bernard Aviation Equipment Company, Inc., of Newark, N.J., as sales engineer. He reported for his new position on May 13th.

As Assistant Mechanical Engineer, Mr. Knisley has been active in the development of aircraft armament equipment and navigation equipment, and has had an active part in aiding in the preparation of many of the famous flights of the past ten years undertaken by both Army and civilian pilots. In these preparations he has been particularly successful in plotting flight courses over extended areas and advising the types of navigation equipment to be used under particular conditions.

In such preflight work he assisted in Jimmy Mattern's Round-the-World Flight, the Army Alaskan Flight, Wiley Post's high altitude tests, Major Hegenbergers and Chester Snow's navigation tests, in extended radio compass tests, and in navigation equipment tests over the Gulf of Mexico. In many of these latter tests, Knisley was navigator on the flights.

Mr. Knisley spent his early youth and his schooling in Charleston, S.C. He graduated from Drexel Institute, Philadelphia, Pa., in 1917, and from the U.S. Naval Academy at Annapolis in 1920. He spent four years at sea as a Naval officer and later resigned from the Navy to take a commercial position. The company with which Mr. Knisley has become affiliated manufactures aircraft pulleys and armament equipment. His Wright Field associates wish him the best of luck.

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ENTHUSIASM FOR CORRESPONDENCE COURSE

The 21st Pursuit Squadron, 35th Pursuit Group, Moffett Field, Calif., turned out almost 100% in favor of the newly initiated Air Corps Correspondence School. Ninety out of 108 men present for duty expressed a desire to enroll for these correspondence courses. If the success of this school is in proportion to the enthusiasm voiced by the men, it should go far toward improving the efficiency of the Air Corps. Says the News Letter Correspondent: "We wish to be quoted as saying, 'We're one hundred percent in favor of this movement.'"

AIR CORPS ACTIVITIES IN PANAMA

France Field

6th Bombardment Group: Starting in May, ground training became of major importance for the junior officers at this field. Due to the recent examinations for Regular commissions, the young officers were given plenty of opportunity to study, and ground training was somewhat curtailed. There is a different story now, however.

The 25th Bombardment Squadron has been holding courses on armament, under the tutelage of Lieut. Herblin, new Armament Officer, Class 39-D. Every phase was explored, not only theoretically but practically as well. Such details as stripping automatic pistols and machine guns and the actual firing of all types of flares and the delicate business of fusing bombs, made indelicate by using dummy fuses, were made a part of everyday conferences and practical study.

The Communications Section, guided by Lieut. Thomas R. Ford, becomes more and more interesting to the insatiable dit-dah boys, as Lieut. Ford points out the finer details of radio procedure in everything from International Morse to Q sigs.

Training on the bomb sights by both the 3rd and 25th Bombardment Squadrons also made up an important part of the training, with periodic flights in the familiar "Jeep," which has flown thousands of miles and never moved yet - the Link Trainer.

Captain Gay F. Hix has his 7th Reconnaissance Squadron at Rio Hato, where bombing practice has been conducted for the past three weeks at that popular resort, made so by the increasing demand for open spaces for the boys who want to try their hand at dropping things.

3rd Bombardment Squadron: In the past few months, France Field has more than doubled the enlisted personnel. Each squadron on the field has received more and more men; most of them new recruits. New temporary quarters have been constructed on the east side of the Randolph Road.

The Squadron received 32 new recruits during April. These men, with the exception of four who were placed in quarantine because of measles contracted while enroute to the Canal Zone, are being put through recruit drill. All of the new men are probably saying that they joined the Air Corps, but it looks as if they were in the Infantry. Every morning all of them are to be found on the parade ground drilling in the fundamentals of the Army's Streamline Drill.

39th Observation Squadron: May 3rd

was moving day for the 39th, the second such event in the three months which have elapsed since the Squadron's activation. For several weeks, the Squadron has been occupying a section of the large barracks assigned to the 6th Bombardment Group and has been functioning as a sort of service or auxiliary unit for the Group. Now, however, the Squadron is about ready to begin operations as a separate tactical unit of the 19th Wing, and the move into separate barracks was the first step in that direction.

The new quarters should be an improvement over the old ones, since they are of permanent construction and are better equipped as to bathing facilities, etc. They are also more centrally located on the post, being but a few steps from the Post Exchange, the Theater and the new Post Office.

Group Mess Hall: The new Group mess hall, or consolidated mess, for the 6th Bombardment Group is finally nearing completion. Slowly, but surely, all the details that tend to the upkeep of a mess hall, such as griddles, coffee urns and a storage room have been done away with, and by May 20th the men of the Group were scheduled to have a mess hall that they can call their own. The 7th Reconnaissance Squadron, attached to the Group for tactical training, will also share this modern up-to-date mess.

The mess hall is ultra-modern, with a cafeteria style of serving food, and very comfortably seats about 400 men. By ringing the chow bell twice for each meal, the men of the Group will have no more troubles or confusion in satisfying their hunger urge.

Above the mess hall is a spacious day room where Group men may spend their leisure hours. It is equipped with pool tables, ping-pong tables and other indoor pastimes. The reading room, which will be completed in a short time, will be equipped with the latest magazines, and newspapers from every possible source.

Albrook Field

The 37th Pursuit Group (Int.) activated on February 1, 1940, and assigned to Albrook Field, comprised Hqs. and Hqs. Squadron, 28th, 30th and 31st Pursuit Squadrons. The 74th Bombardment Squadron (M) was attached to the 37th at the time.

At the inception of the new Group, the officer personnel included Captain Russell E. Randall, Group Commander; 1st Lieut. Morley F. Slight, Operations and Intelligence Officer and Commanding the Hqs. and Hqs. Squadron; 2nd Lieuts. Albert A. Cory, Adjutant; John W. Weltman, Materiel Officer; 1st Lieuts. Robert D. Gapen, Carl T. Goldenberg and

John R. Kelly, commanding the 28th, 30th and 31st Pursuit Squadrons, respectively.

Since inception, the Group has been functioning and obtaining commendable results, considering the skeleton organization, particularly in regard to officer personnel. A few of the salient highlights in the history of the Group are: trips to San Jose, Costa Rica, participating in a 19th Wing mission; cooperative low target missions with the Coast Artillery; missions of practice defense, using simulated ground interception net; frequent flights to Jaquo, the Perlas Islands, Point Pinas in cooperation with the Engineer Corps, and various objectives such as transporting doctors to administer medical aid to natives; flights to Port Armuelles where, as guests of the United Fruit Company, the pilots found new friends and learned first hand regarding the immense, complicated and extensive operations of that Company. All of these duties were accomplished in addition to the regular schedule of tactical flying and the duties and problems attendant to the organization and proper administration of a new Group.

Shifting personnel has not simplified the problems. It has resulted in the following replacements and an even greater need for officers. Lieut. Slight, relieved from assignment and assigned to the 15th Air Base Squadron, was replaced by 1st Lieut. John H. Jeffus. Second Lieuts. Burton E. Schwind, Leon W. Gray and Robert B. Mueller were relieved from active duty; 2nd Lieut. John K. Hester was assigned to the Group on April 29th and to the 30th Squadron. During May, 1st Lieuts. Robert D. Capen, John R. Kelly and Carl T. Goldenberg were scheduled to return to the United States.

Proud of its history, the 37th Group looks forward with ambitious anticipation to the future. Time will justify that pride and indelibly record the achievements of the organization.

Other officers serving with the Group in various positions include 2nd Lieuts. Kyle L. Riddle and John B. Henry, Jr., 31st Squadron; Marshall P. Camp and McDonald H. Hays, 28th Squadron; J.C. Smith, 30th Squadron.

Pilots at Albrook Field are called upon for lots of things, latest of which being a mission to rescue three lost fishermen who were last reported in the vicinity of Pinas Point, some 125 miles southeast of this station. Two OA-8's and one OA-9 were used in the search. The OA-8's were piloted by Major Arthur L. Bump and Captain R.E. Randall, with 2nd Lieut. Albert A. Cory

and Captain Roger J. Browne as co-pilots. First Lieut. John R. Kelly piloted the OA-9, with 2nd Lieut. N.B. Hays as co-pilot. It was learned later that the missing boat was picked up with its crew by a Chilean freighter and returned to Balboa Docks.

Three officers of the Ecuadorean Army, who were visiting on the Isthmus for several days, were returned to Guayaquil on May 11th, via U.S. Army B-18. First Lieut. Richard T. King, commanding the 74th Bombardment Squadron (M), was navigator on the flight, and Major Sweeney and Captain Munroe, both of France Field, were pilot and co-pilot, respectively. The visiting officers were Major L. Hidalgo and Captains B. Tobar and C. Garcia.

Probably the fastest growing community in Central America is the Air Corps Gunnery Camp at Rio Hato. The post was formally opened on September 1, 1939, and has grown steadily. First Lieut. Jack M. Malone, Commanding Officer of Rio Hato, is in charge of the construction program, which has progressed remarkably well. The men are now housed in three barracks and have a consolidated mess to handle the rapidly increasing personnel.

Captain Clifford P. Michael is in charge of the Medical Detachment, which is housed in a newly constructed dispensary. There is one radio house on the post which handles communications. The needs and personal wants of the post are handled by two Post Exchanges. Water for the entire area is furnished by a 20,000-gallon water tower, which was also installed by the enlisted personnel.

The landing field was cleared by the enlisted men, who worked for weeks with hand tools and tractors. The men dug approximately ten miles of ditches to house water mains and electrical cables. The work of constructing the buildings and landscaping was all performed by Air Corps man power, but has been under the supervision of the Corps of Engineers.

There is little time for recreation, and the men have worked so hard that they thought little of recreation anyway. They have one of the finest beaches in the world at their disposal, however. The Rio Hato sand beach is famous the world over and runs for five miles without a blotch. There is a Post Theater which runs first-run shows nightly, and which seats about 300 people. On week-ends, the men find time to fish in one of the most fertile waters of Central America. The day is coming when Rio Hato will be one of the most beautiful posts in Panama.

V-8482, A.C.

MORE PILOTS-TO-BE START BASIC TRAINING

Class 40-F, the sixth class of Flying Cadets under the Air Corps Expansion Program, reported to Randolph Field on May 15-16 for the second of the three 12-week phases of flight instruction that will transform them into military airplane pilots in less than a year.

The days when a 150-man primary class reported for duty, spent ten days or two weeks becoming acclimated before reporting to the flying line for training, are no more.

Long before 40-F appeared over the Randolph Field horizon, plans were being laid for handling the 254 men. Instructions had been sent to each of the nine civilian flying schools. "Your class of Flying Cadets should report to the Cadet Administration Building, Randolph Field, at 8:00 a.m., May 15," one school was told. "Your men report at 10:00 a.m. on May 15," another was told. In all, the nine schools were spread over a two-day period.

As each group arrived, they were immediately formed into squads of 11 men each. "Squad 16 goes to the barber shop for a hair cut, Squad 20 to the supply room for the initial issue of clothing, squad 7 to the special photographic room set up in the basement, where identification pictures of each man are made."

A "Master Coordinator," in direct charge of all squads, stations himself on the steps of the Cadet Administration Building and directs each squad to the next processing location. Each squad is in charge of an upper classman, himself an "old timer" of six weeks.

In less than 48 hours, each of the 254 men have drawn clothing, athletic equipment, been measured for tailor made trousers, received their first real taste of the new close order drill, drawn flying togs and are ready for the flying line. The present class of new Flying Cadets, 40-F, reported on Wednesday and Thursday, had all day Friday to become acclimated, and reported for their first look at a BT-9 on Saturday morning.

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The 95th Bombardment Squadron, along with other members of the 17th Group, are under orders to leave for their new stations at McChord Field, near Tacoma, Wash., on June 15, 1940, and by that time expect to have finished all training schedules and to have become a full-fledged Bombardment unit.

The 17th Bombardment Group is now stationed at March Field, Calif.

CHIEF OF AIR CORPS VISITS ALBROOK FIELD By the News Letter Correspondent

Major General Henry H. Arnold, Chief of the Air Corps, expressed complete satisfaction with the development of local Air Corps units and with the entire Air Corps organization before leaving Albroke Field, May 9th, after a two-day visit.

General Arnold arrived at the Field on Tuesday, May 7th, at 7:20 p.m. in a Douglas C-41 Transport, and spent most of his brief stay on the Isthmus inspecting the status of Air Corps housing and other Air Corps developments. He was accompanied on the trip by Col. B.N. Grant, Majors B.W. Chidlaw, W.R. Carter and Captain E.H. Beebe.

On his arrival at Albroke Field, he was met by Brigadier General Herbert A. Dargue, commanding the 19th Wing, and by Colonel A.H. Gilkeson, commanding Albroke Field. All officers of the field were present as the General's ship landed.

Discussing housing conditions, the Chief of the Air Corps pointed out that of the numerous barracks and officers' quarters to be built on the Isthmus, Albroke will receive her share.

Wednesday morning and a portion of Wednesday afternoon were spent by General Arnold in inspecting the various functions under way on the Isthmus that pertain to Air Corps development. Included in his itinerary was a flight to Rio Hato, where the Air Corps Training School has been instituted, and a visit to France Field. He also spent some time looking at Howard Field, on Bruja Point, where a major portion of the work on a long new runway has been completed. He expressed satisfaction with the progress being made.

On his return to Albroke Field, at about 3:00 p.m., he was honored by members of the Albroke Field command. All ships were lined up on a taxi strip with combat crews in front of them. Major General Daniel Van Voorhis, Department Commander, and General Arnold, first inspected the Guard of Honor and then the ships and combat crews. Later they inspected barracks and various activities on the field.

General Arnold was the guest of honor at a reception at the Albroke Field Officers' Club on Wednesday night. He held at least one long conference with General Van Voorhis, and several conferences with other high ranking officers, including those at Albroke Field. He left the field Thursday morning for La Guira, Venezuela, and from there planned to head back north toward the United States with stops in Trinidad and San Juan, Puerto Rico, en route. He planned

to arrive in Washington, D.C., on or about May 15th.

France Field:

On Wednesday, May 7th, General Henry H. Arnold visited France Field. Arriving by air at 12:15 p.m. in an Army Transport, General Arnold inspected the personnel and equipment of this post. All of the men and planes were in parade formation on the flying field. The 14th Infantry band furnished the music during the inspection.

At 1:00 p.m., a luncheon in honor of General Arnold was served at the Officers' Club. The entire officer personnel and their wives had the opportunity of meeting and talking to the General personally. The Army Transport departed from France Field at 2:30 p.m., for Albroom Field, which is located on the Pacific side of the Isthmus. A reception was given for General Arnold by General Van Voorhis.

Everyone at France Field was happy to have had the opportunity of meeting the head of our branch of the service and such an important cog in the machinery of the nation's defense - the U.S. Army Air Corps. All hope that General Arnold will be able to pay us another visit and that he will be able to spend more time on our own France Field.

NEW CRASH BOAT FOR LANGLEY FIELD

A new crash boat, 72 feet long and equipped with two engines, will be added to the Langley Field fleet in the next few months, according to a report made today by Colonel Jacob W.S. Wuest, Commander of the Langley Field air base, Lieut. Colonel Fred L. Black, the air base quartermaster.

Mr. Lavern L. Cockrell, of Hampton, the assistant engineer of the Quartermaster Corps at Langley Field, is now at the plant of the Greenport Basin and Construction Company, Greenpoint, Long Island, N.Y., where he will remain until the vessel is completed. He will also assist in the inspection and installation of the engines and equipment of the four other crash boats that are being manufactured for the Army Air Corps.

Colonel Wuest revealed that it is proposed to dredge a channel, approximately 60 feet wide and 250 feet long, from the Langley Field boathouse to the main channel of the Southwest branch of the Back River. The dredging of this channel is necessary to provide for the passage of a larger crash boat which will be used in case of an airplane crash in the river or the bay.

Letters were sent by Lieut. Colonel

Walter Bender, Executive Officer of the Langley Field air base, to owners of oyster leases in that branch of the river. Their opinion has been requested as to the probable damage to oyster ground therein. It is desired to obtain releases from the lessees. In his letters, Col. Bender pointed out that the nearest point to any oyster lease which dredging will approach is approximately 500 feet. It is believed that no damage will be caused to any leases.

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STUDENTS REPORT FOR ADVANCED TRAINING

A class of 213 students, who have just completed their basic flight instruction at Randolph Field, reported May 14th at Kelly Field, Texas, where they will wind up their training with three months of advanced work.

In the class were three student officers and 210 Flying Cadets. Of this number, 45 were sent to Brooks Field, sub-base of Kelly Field, to complete their course.

Upon their arrival at Kelly Field, the students were welcomed by Colonel Eugene A. Lohman, Commandant of the Air Corps Advanced Flying School, and then assigned to the various flying sections, supplied with necessary equipment and assigned quarters.

Beginning May 14th and continuing throughout the week, the new arrivals were slated to be given their physical examinations and ground school instruction preparatory to beginning actual flight instruction on Monday, May 20th.

Aside from the incoming class, Kelly and Brooks Fields have a class of 241 students who have to date completed one-half of the advanced course. This brings the total number of students now in training at the two advanced air-dromes to 454.

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Patterson Field Hospital (From Page 9)

alert, interested in their jobs, and busy. The pet of the hospital at the time was Buddy Schwichtenberg, the son of Captain Schwichtenberg, one of the staff physicians, who had suffered a fractured skull some time previously, but who was having such a good time, now that he was convalescent, in being a man among men that he showed not the least bit of interest in going home.

The best wishes from both Fields go with Colonel Baker to his new duties, and greetings are extended to his successor, Lieut. Colonel C.F. Snell, who arrived from Manila, P.I., to guide the fortunes of this "old-new" hospital.

Hundreds of hours nightly of night flying training are entirely possible in a Bombardment or Pursuit squadron or group. Navigation flights, with the planes scheduled to return to their home airdrome at intervals, solves the problem. But to train 250 Flying Cadets in the rudiments of night landings and take-offs is another matter. Normally, night traffic control system at any military air field consists of a zoning system, dividing the air space into four sectors. A pilot is assigned each zone, and is cleared in for a landing, either by radio or a system of light signals.

Essentially, this is the system employed at Randolph Field, Texas, where classes of Flying Cadets get their first taste of night flying. However, instead of four zones, eight are used, and instead of one pilot and one plane to a zone, two craft are assigned each sector.

Minimum requirements for each class of Flying Cadets is approximately 750 hours of "N" time, that is, three hours per cadet. With the staggered system of classes, now being employed under the Air Corps Expansion Program, two basic classes always are in session, one six weeks further advanced than the other.

Let's take two specific classes and see how the night flying time is obtained. Class 40-A arrived at Randolph Field about October 1st of last year, the first class under the new system utilizing civilian flying schools. Six weeks later, Class 40-B arrived. Two separate and distinct basic schools had been organized at Randolph Field, each one utilizing one side of the four-sided airdrome. By the time 40-B arrived, Class 40-A was ready to start night flying.

Both sides of the field were assigned them for this work, and both radio control towers were used. An imaginary line was drawn down the center of Randolph Field proper, dividing it and the air space surrounding it into two halves. In each of these two main sectors, self-contained red blinker lights had been installed at proper locations, dividing each half of the field and its surrounding air space into four zones, a total of eight sectors.

Comes the take-off. "Flying Cadet Blank, ready to take off for Zone 1," blats the radio on a certain frequency. Only the east control tower hears that, however, for two frequencies are used.

"Tower to Mr. Blank...Are you upper

or lower one?" You see, in addition to the four zones, there are also two divisions within the zone itself. Lower one is assigned the air space between 1000 and 1500 feet; upper one has the 500-foot interval between 2000 and 2500.

Thus, every week-day night, weather permitting, there are sixteen airplanes aloft, all within a five-mile radius of the field. On an average night, slightly more than 200 individual landings are made, approximately fifty airplane hours flown.

To explain the method used in getting the various upper and lower zones into landing position and back to their assigned locations is rather lengthy. It is sufficient to say that each of the sixteen planes has a definite path which he follows, both in approaching for a landing and also in returning to his zone. The control officer, through experience, has learned how to stagger the various schedules. At the start of a period, the upper planes are sent off first; remain below the 1000-foot level until they reach their zone, then climb to 2000 feet. Following them off are the four lower zones, also remaining below 1000 feet until in their zone, then up to the 1000-1500 level.

Lower one is called in for a landing, and upper one drops down into lower one's position, for he knows he is next. As the first student pilot is on his approach leg, the control tower calls upper one to start his approach. Landings are made at the rate of one minute throughout the operations period.

When the third phase of the night flying course is scheduled, third phase being landings by means of a flare, all students ease out into the far corners of their zone while upper one drops his flare and glides on in for his landing. Lower one climbs to the 2,000-foot level, drops his flare, and so on.

Of course, in addition to the radio used 95 percent of the time in controlling traffic, the familiar bar signals, red and green circles, and the light gun, also are used in case of transmitter or receiving failure.

This system of traffic control for student training activities during night flying is not entirely new. It has been in use for a couple of years, but in the past few months, however, it has reached a higher degree of proficiency than ever before, due to the increased flow of Flying Cadets.

GRADUATION OF CLASS 40-B AT KELLY FIELD

The News Letter Correspondent begins to feel that every time he sits down to prepare material for the Air Corps News Letter he starts off with a graduation write-up. Actually, this is not quite fact, but in every issue of late either a new class has just arrived at Kelly Field or a class is about to graduate, or a class has just graduated. With the expansion program in full swing, such actually is the case.

On May 11th, Class 40-B set a new record at the Training Center by graduating only seven weeks after Class 40-A, which graduated on March 23rd. Since recent developments tend to suggest that an even greater expansion is on the way, Kelly Field's boast that in two years it has quadrupled its annual pilot output is about to be belittled. However, Kelly Field has set a new peace-time record in graduating a class only seven weeks after the first class to graduate in 1940.

Colonel Eugene A. Lohman, Commandant of the Air Corps Advanced Flying School, introduced Colonel Augustine W. Robins, Commanding Officer of the Air Corps Training Center, who was the principal speaker at the graduation exercises. After Colonel Robins' address, he presented each graduate his diploma, while Col. Lohman presented each graduate with wings.

The names of the graduates of Class 40-B were listed in the previous issue of the Air Corps News Letter.

1941 ---oOo---

A TRIBUTE TO MASTER SERGEANT RALPH W. BOTTRIELL
By Gary F. Hinton, 24th Air Base Squadron,
Kelly Field, Texas

The following poem is in tribute to Master Sergeant Ralph W. Bottriell, famous pioneer parachute jumper. His past and his work in this direction, I feel deserve a more lasting tribute than an unknown poet such as I can express. Even so, I sincerely believe that my poem, humble as it is, glorifies to some extent his lasting efforts and success.

1941 ---oOo---

In the hall of fame is carved the name,

Of a man as yet unsung,
Who takes his place with humble grace,

The heroes there among.

While above does soar the swift Air Corps,

In grandeur through the clouds,

His banner waving, all life saving,

A parachute's silken shrouds.

A gasp, a sigh, a tear stained eye,

A trembling lip in prayer;

God praise his name, give him the fame,

Of conquest o'er the air.

1941 ---oOo---

FIRST WING CONCENTRATION AT MARCH FIELD, CALIF.

On May 2nd to 4th, tactical units of the 1st Wing, GHQ Air Force, held a Wing concentration at March Field, Calif. All tactical airplanes of the 20th Pursuit Group, Moffett Field; 7th Bombardment Group, Hamilton Field; 17th and 19th Bombardment Groups, and the 38th and 89th

Reconnaissance Squadrons from March Field participated.

A problem was held in which San Clemente Island, off the coast of southern California, was defended from an invading force.

On the evening of May 3rd, a dinner was given at the Officers' Club, March Field, with all officers attending. Short skits were given to add to the gaiety of the occasion. A buffet dinner was also given for the combat crews in Hangar No. 8, with approximately 300 enlisted men present. Plenty of good food was available.

Officers were billeted in the post gymnasium and enlisted men in space available in the temporary barracks scattered about March Field. All participants agreed that all maneuvers should be thusly conducted.

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NEW SIGNAL CORPS UNITS ACTIVATED AT LANGLEY

Three new Signal Corps organizations sprang into being on May 1st at Langley Field, Va., namely, the 301st and 303rd Signal Companies, Aviation, and the First Signal Platoon Air Base.

For several months, recruits and previous service men of the Signal Corps have been arriving at Langley Field. They were assigned to a temporary organization known as the Signal Detachment, GHQ Air Force, and were attached for rations and quarters to the First Air Base Squadron (Double). These men, 125 in number, have now become members of permanent organizations. They have been undergoing drill and training under Captain John H. Brewer, Signal Corps.

Although each of the Signal Companies, Aviation, are supposed to have a strength of four officers and 71 enlisted men, and the Air Base Signal Platoon a strength of one officer and 24 enlisted men, the expansion to that number has been deferred until funds become available. However, more men are expected in June from the graduating class of the Signal Corps School at Fort Monmouth, N.J.

Plans call for the assignment of the 301st Signal Company, Aviation, to duty with the Headquarters of the GHQ Air Force, and the 303rd Signal Company, Aviation, to the Second Wing Headquarters. The First Signal Platoon, Air Base, will serve with Langley Field Air Base Headquarters.

Describing the functions of these three new Signal Corps organizations, Captain Brewer stated that Signal Companies, Aviation, are charged with the installation, operations, and maintenance of all signal communication activities, except tactical radio, of the headquarters to which assigned, while the Signal Platoons, Air Base, will supplement the Signal Corps personnel furnished from the Corps Area Signal Service Company. In the case of Langley Field, this personnel is supplied by the 16th Signal Service Company of Baltimore, Md. All of the three new Langley Field units will be under the technical supervision of the Signal Officer, GHQ Air Force, Lieut. Colonel Cedric W. Lewis, Signal Corps.

WEST POINT CADETS TO VISIT LANGLEY FIELD

Grey clad cadets of the U.S. Military Academy at West Point, N.Y., about 450 of them, will descend on Langley Field, Va., during June. They will not arrive at one time but will be divided into three groups of 150 cadets each, to arrive on June 15th, 22nd and 29th. Each group will leave Langley Field on the Tuesday after its arrival. The Air Base organization is charged with the duty of providing accommodations for these cadets and for the arrangement of an aerial bombing and machine gun demonstration for each of the three cadet groups.

Arrangements will also be made for a visit by each cadet group to the laboratories of the National Advisory Committee for Aeronautics. The Air Base Commander, Colonel Jacob W.S.

Wuest, has appointed seven officers to pilot the cadets around Langley Field and to provide their accommodations during their stay at Langley Field, viz: Lieut. Colonel Clyde V. Finter, officer in charge of cadet activities; 2nd Lieuts. Harvey C. Dorney, officer in charge of recreation and social activities; John P. Healey, assistant to Lieut. Dorney; Cyrus W. Kitchens, Jr., supply officer, and Keith K. Compton, mess officer; Major E.A. DeWitt, transportation officer, and Captain Kenneth G. Gould, medical officer.

During their stay at Langley Field, the cadets will be housed in the gymnasium, where beds will be made up, with racks for hanging clothing, and room orderlies to keep the building clean. They will eat their meals in messes of the 2nd Bombardment Group (H.). Iced water will be provided in the gymnasium.

The schedule for the cadets' visit calls for arrival of each group on Saturday at 11:00 a.m.; lunch at 1:00 p.m., and recreation, such as swimming, squash or boating at the option of the cadets during the remainder of the day.

On Saturdays, a convoy of trucks will convey the cadets to colonial Williamsburg, where they will tour the village. The tour to Williamsburg is optional, so that the young men may, if they wish, again engage in sports or trips to nearby beaches that will be arranged by the recreation officer.

Religious services will be held at the Air Base Chapel at 8:00, 10:00 and 11:00 a.m.

On Monday, visits will be made to the Base engineering departments, 2nd Bombardment Group and 8th Pursuit Group, in groups of approximately 50, spending about 30 minutes at each of the three activities. At the 2nd Bombardment Group, B-17 and B-18 Bombers will be on hand for inspection by the cadets, while the 8th Pursuit Group will display the P-36 and P-37 Pursuit planes.

The next item on the program will be a visit by truck to Messick Point to observe bombing and aerial gunnery demonstrations. In the afternoon, cadets will be given an opportunity to fly in B-17 airplanes of the 2nd and 25th Bombardment Groups. Cadets who are not scheduled to fly will be given an opportunity to engage in recreational activities.

On Tuesday the cadets will spend the entire morning at the N.A.C.A. Laboratory, and they will leave by air at 1:30 p.m. for Wright Field, Dayton, Ohio.

MOFFETT FIELD ACTIVITIES

It was learned that the 82nd Observation Squadron, which left in the middle of May for maneuvers, will participate in the Fourth Army war games in Washington, to be held in August.

Plans have been made for the mobile troops of this section of the Army, numbering approximately 40,000 officers and men, to train south of Fort Lewis, near Centralia and Chehalis, Wash. The 82nd Squadron is one of six aerial units to participate, while other troops from Monterey, Fort Scott and Fort MacArthur and other California points, will join in.

Seven AT-6 airplanes were recently flown to Moffett Field, Calif., from the North American factory at Los Angeles. Three of these planes were assigned to the 35th Pursuit Group and four to the 20th Pursuit Group, to be used for instrument training.

Means for instrument training in the Pursuit Groups have been very inadequate, and the delivery of these planes will provide the needed means for the Pursuit pilots to obtain this training.

Six pilots of the 55th Pursuit Squadron, 35th Pursuit Group, attended the 1st Wing Exercise at March Field, Calif., on May 2nd and 3rd. After the exercise they flew to Muroc Lake, where they finished firing the ground gunnery course. This is the last phase of the yearly training and finishes the 55th's training directive 100% for the Fiscal Year 1939-1940.

Officers of the 18th Pursuit Squadron, 35th Pursuit Group, who participated in the war games at March Field recently, included Captain Norman D. Sillin, 2nd Lieuts. H. Viccellio, Patrick R. Arnold, Charles A. Gayle, Cecil J. Looke, Jr., and William A. Bowie.

Extended navigation flights were made by two officers of the Hqrs. and Hqrs. Squadron, 35th Pursuit Group, during the past month. Major George P. Tourtellot flew to Fort Leavenworth, Kans., on April 21st and returned on April 27th, while Cincinnati, Ohio, was the destination of 2nd Lieut. Lawrence R. Gibbons, Air Reserve, who flew there on April 20th and returned several days later.

94TH PURSUIT SQUADRON RETURNS FROM MANEUVERS

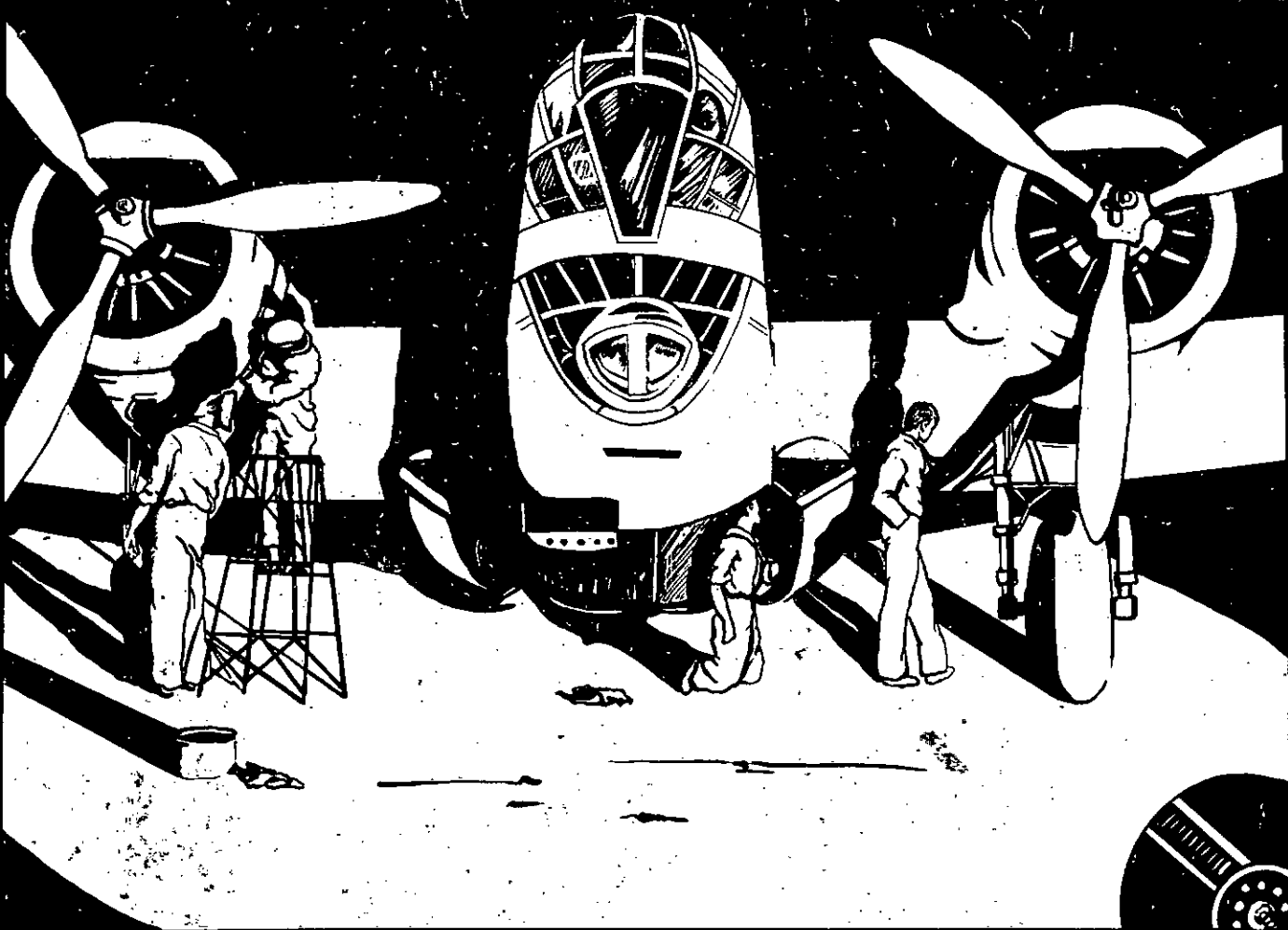
The 94th Pursuit Squadron (Int.) returned to Selfridge Field, Mich., on May 12th, after an arduous week in the field, during which time the unit actively participated in the Third Army Maneuvers. Based at McComb, Miss., the Squadron spent a busy week of patrol and interception work. Recreational activities included skeet shooting, horseshoe pitching and baseball.

Upon returning to Selfridge Field, the Squadron began preparations for training the eight new pilots who arrived during its absence, viz: Lieuts. Sheppard, Strauss, Mahoney, McCallum, MacInnes, Sloan, Thynge and Young.

V-8482, A.C.

AIR CORPS

NEWS LETTER



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Information Division
Air Corps

June 15, 1940

Munitions Building
Washington, D.C.

The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation.

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TRAINING PROGRAM FOR AIR CORPS EXPANSION

Under date of June 14, 1940, the Hon. Harry H. Woodring, Secretary of War, announced a comprehensive program for training pilots and other aviation personnel in connection with the Air Corps expansion provided by recent Congressional enactments.

The plan for the expansion of training facilities will provide for the production of Air Corps pilots at the rate of 7,000 per year. In addition, 3,600 bombardiers and navigators will be trained annually.

Primary training will be conducted as at present at civilian flying schools, which will be materially expanded to care for increased classes. Basic, advanced and specialized training will be given at three Air Corps training centers, as follows:

1. Gulf Training Center, Headquarters Randolph Field, Texas.

2. Southeast Training Center, Headquarters Maxwell Field, Montgomery, Ala.

3. West Coast Training Center, Headquarters at Moffett Field, Calif.

The Air Corps Tactical School at Maxwell Field will be discontinued, effective June 30, 1940.

Hereafter Air Corps pilot training will be accomplished in four phases:

10 weeks primary training at civilian flying schools,

10 weeks basic training,

10 weeks advanced training,

5 weeks specialized training in combat types.

The nine civilian schools at which pilots are now being given primary training will continue in operation expanded to the fullest possible capacity. Each will also open a branch school to accommodate additional students. It is expected that by next November 1,292 students will enter these schools every five weeks.

From the civilian flying schools qualified cadets will be sent to one of the three training centers where they will be assigned to basic schools for additional training, after which they will progress to advanced and thence to specialized combat schools. The existing

training center at Randolph Field is now in operation. The training centers at Maxwell Field and Moffett Field will open in September and October of this year, respectively.

A school for Pursuit instructors will be established at Barksdale field, beginning December 1, 1940, and one for navigators and bombardiers at the same station, beginning February 15, 1941. An additional school for Pursuit pilots will be opened later.

Present classes at the existing training center at Randolph Field and those entering in June will receive their advanced training at Kelly and Brooks Fields, and their specialized training with GHQ Air Force units. Subsequently, basic, advanced and specialized training will be conducted under the three training centers.

The class entering the civilian primary schools on August 3, 1940, will complete its training at the three training centers in April, 1941, with an estimated 475 graduating as military pilots. Every five weeks thereafter classes will graduate, gradually increasing in size until the peak of 685 pilots is reached by August 9, 1941.

The class entering the civilian primary schools on May 18, 1940, was increased from 396 to 466. Classes entering thereafter will have the following strengths:

June, 1940	605
August, 1940	900
September, 1940	1,100
October, 1940	1,234
November, 1940	1,292

and thereafter.

Ground school instructors in primary schools will be increased from a present total of 20 to approximately 100. Flying instructors in these schools will be increased from a present total of 135 to 430. Flying instructors in basic and advanced flying schools will be increased from 240 to approximately 1,000. The employment of approximately 60 civilian navigation instructors is contemplated.

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V-6491, A.C.

ADDITION TO MOFFETT FIELD HOSPITAL

The construction of a new wing on the Moffett Field hospital, which will considerably increase the facilities, was started recently.

A contract for the construction of the new wing, and for some remodeling work on the interior of the present structure, was awarded to the Carl N. Swenson Co., of San Jose, Calif. The low bid on the contract was \$46,036.

The wing, to be located on the west end of the present structure, will be 34 ft. by 52 ft. in size, and will give the hospital an added capacity of 32 beds. The addition will be of wood construction with plaster and stucco finish.

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NEW PHOTO SHIPS FOR MOFFETT FIELD

A new specially designed photographic plane, which will eliminate the difficulties formerly encountered in planes which did not have a sufficiently high service ceiling and which were not built with aerial photography in mind, recently arrived at the Moffett Field Air Base and was assigned to Flight "E," Photo Section.

The new plane has a service ceiling of 30,000 feet, with a cruising speed of over 200 miles per hour. Special camera mounts are provided, with doors in the belly of the plane through which the pictures may be taken.

Lieut. Elvin F. Maughan, commanding the flight section, and Cpl. George W. deVilbiss, crew chief, returned on June 2nd from the factory with the plane.

Aerial surveys were formerly made from Observation type ships, on which provisions had to be made for photographic work. With the new planes, designed and built for the purpose, it is expected that aerial surveys will be made much more efficiently than before. A second ship of the same type will be assigned to the local base later.

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ORDNANCE SCHOOL OFFICERS ON FLYING DUTY

Capt. Edward P. Mechling, commanding the first platoon, Tenth Ordnance Service Company, recently announced that 13 student officers of the School of Aviation Ordnance were recently attached to Base Headquarters and First Air Base Squadron, Langley Field, Va., for temporary flying duty.

These students are 1st Lieuts. Wm. A. Davis, Henry W. Herlong, Harry C. Porter, Field Artillery; Foster L. Furphy, Coast Artillery; 1st Lieuts. Winston R. Maxwell, Merle R. Williams, Corwin P.

Vansant, 2nd Lieuts. John F. Foy, John G. Zierdt, Infantry; 2nd Lieuts. George B. Minor, John B. Nance, Don R. Ostrander, Paul W. Scheidecker, Cavalry.

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MR. DAVISON VISITS CHQ AIR FORCE CHIEF

Mr. F. Trubee Davison, former Assistant Secretary of War for Aeronautics during the Hoover administration and now head of the American Museum of Natural History, New York City, arrived at Langley Field, Va., on May 28th, by private yacht from Long Island, N.Y. He was accompanied by Mr. James Lee, a New York banker, and Mrs. Lee. The yacht was anchored in Back River off the shore from the Enlisted Men's Service Club. Mrs. Davison arrived the following day by plane from New York to join the party, the members thereof being the guests of Major General and Mrs. Delos C. Emmons. The four visitors remained at Langley Field for several days and then returned to New York.

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MORE INSTRUCTORS FOR ADVANCED FLYING SCHOOLS

The five Sections of the Air Corps Advanced Flying Schools, Kelly and Brooks Fields, Texas, were increased by 13 new flying instructors, all of whom are Reserve second lieutenants who are on extended active duty and assigned to Headquarters, Air Corps Advanced Flying Schools. These men, and the sections to which they were assigned, are:

To Section I: C.L. Abercrombie, F.H. Bounds and F.C. Fay;

To Section II: F.X. Bradley and P.P. George;

To Section III: J.B. Riley, R.T. McKee and R.M. Snow;

To Section IV: A.F. Gordon and C. McKenna, III.

To Section V at Brooks Field: K.F. Grunewald, W.C. Stroud and Robert Sosenfield.

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"WHISTLE WHILE WE WORK" SQUADRON

The 63rd School Squadron at Kelly Field, Texas, is a very radio-minded organization. Every department and hangar is equipped with a streamline, push-button radio. Even though the mechanics are performing a routine inspection, changing a generator, changing an engine, or "what-have-you," they can still listen to the baseball games, or perhaps a little "swing." "We are known as the 'whistle while we work' Squadron," declares the News Letter correspondent.

V-8491, A.C.

THE LONG WAY FROM HERE TO THERE

By Bruce D. Biddiscomb,
Flying Cadet, Class 40-B.

Perhaps one would presume that a person of my meager experience could hardly be qualified to expound on the subject of navigation. But such a one may rest assured that I was prevailed upon to do so only after I had convinced others, and myself, that there is a long and a short way. And the long way is possible but perhaps not plausible.

If you will follow me step by step, I am sure that my system of navigation will be no clearer to you than it is to me. How can one travel from Kelly Field to Crystal City, from Crystal City to Fort Clark, and from Fort Clark to Kelly Field and still don that experienced traveler's air - having flown "via Mexico?"

Now, before starting on a cross-country, we must very carefully prepare our course. We must figure the true course and from this derive our magnetic course. When this is done, we will pick out a good many check points along our course. If you are at all vague to the purpose of check points, then please let me elucidate.

Check points are the "mile post" of your progress along the course. Please don't consider them too lightly. Of course, all they do is tell you where you are. If that does not interest you, then just disregard them. (This will be illustrated later in the discussion.)

Well, we have our course plotted, our check points designated, and our estimated time of arrival at these check points. Other pertinent data, such as winds aloft, deviations, etc., are taken into consideration.

Ah, it is one o'clock! We take off! After climbing to our assigned altitude, we head our course. At this time there is no thought, such as "Navigating via Mexico," to trouble us. Good spirits and confidence abound.

Everything is running smoothly. Our check points are checking, our motor is motoring, etc. At last, under our left wing is Crystal City. And so, it is with confidence that we turn towards Fort Clark. What's that? Well, it must be in the general direction of Fort Clark.

The check points have quit checking! Oh, well, the motor is still motoring, so maybe that last check point, Fort Clark, will be visible at the required time. We carry on.

Ha-m, what's this! Our time is up, but we can't see Fort Clark. In fact, we see nothing that resembles civilization, except a few small roads here and there.

Ah! What is that away over on our left side? It looks like a river, and a town on the other side. With a song in our heart (must have been "Down Mexico Way"), we aim our trusty ship in that direction.

Much to our chagrin, we find that what we hoped was a town is naught but a large ranch. Say, you don't suppose we are in Mexico, do you? Ha-m could be, but look! There far to the north, doesn't that look like a town? Let's have a look.

With eyes glued to this resemblance of a town, we do not at first realize that on across the river from it is an even larger town. But as we draw nearer, of course, we see it. Now, where do you suppose we are?

Well, let's cross the river and check the larger town. We start a wide circle around the town, or should we say city? Anyway, we see two big white tanks on the north side. Let's take a look at the map. Ah! Here are two white tanks indicated, but they are at Del Rio! Perhaps we had better investigate further. I say, that looks like an airport down there! Yes, sure enough, it is! And there, painted on the roof of a building, is Del Rio.

It is a matter of a few minutes until we arrive at Fort Clark. At Fort Clark it is necessary that we land and refuel, we we have only about forty gallons of gas left.

After refueling, we take off for Kelly Field. We are very careful to check our check points now, and arrive at Kelly without difficulty. Now, then, can anyone doubt that such navigation is possible? Or is there doubt?

But there is one thing that must not be doubted. If you would not terminate your navigation problem in this manner:

"CHECK YOUR CHECK POINTS!"

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MORE SPACE FOR GLENDALE DETACHMENT

Negotiations are virtually completed for a 375-acre airport at Ontario, Calif., for the use of Flying Cadets of the Glendale, Calif., Detachment, according to an announcement made by Major C.C. Moseley, owner of the Cal-Aero Corporation, the contract school.

Hangars, shops, and maintenance equipment to the extent of a quarter of a million dollars, are to be built at the field, it was announced.

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COLLEGE DETAILS FOR AIR CORPS OFFICERS

Under Special Orders of the War Department, recently issued, eleven Air Corps officers were detailed to attend summer courses and regular courses of instruction at civilian educational institutions, as indicated below, viz:

To the California Institute of Technology, Pasadena, Calif.:

1st Lieuts. Paul H. Dane, from Chanute Field, Ill., and Howard M. McCoy, from Wright Field, Ohio, to pursue summer course and regular course in Aeronautical Engineering.

1st Lieuts. John K. Arnold, Jr., from Langley Field, Va.; and Norman C. Spencer, 22nd Observation Squadron, Brooks Field, Texas, to pursue summer course of instruction in Mathematics and regular course of instruction in Meteorology.

To the University of Michigan, Ann Arbor, Mich.:

2nd Lieuts. Clarence A. Neely, Marvin C. Demler and Harold E. Watson, from Materiel Division, Wright Field, O., to pursue summer course and regular course in Aeronautical Engineering.

To Massachusetts Institute of Technology, Cambridge, Mass.:

1st Lieuts. William W. Jones, Lewis L. Mundell and James W. Twaddell, Jr., from Mitchel Field, N.Y., and 2nd Lieut. James B. Baker, from Scott Field, Ill., to pursue summer course of instruction in Mathematics and regular course of instruction in Meteorology.

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THE AIR SHOW AT BOLLING FIELD

The Army Air Corps Exhibit at the Air Show at Bolling Field, D.C., during the period May 26 - 30, 1940, consisted of an AT-6 airplane suspended from the ceiling of the hangar in diving position as though it were making a turn around a pylon which was placed a short distance from it. The propeller was replaced by a circular piece of glass which gave the appearance that the propeller was turning over. The Link Trainer, ordinarily used at Bolling Field for instrument flying training, was on exhibition, along with the Gordon-Bennett International Aviation Trophy, the Locatelli Trophy, the Collier Trophy and the Spokane Spokesman-Review Trophy. The Army exhibit also included displays in connection with the recently established system of training Army pilots at civilian flying schools prior to entrance at Randolph Field.

The Navy exhibit included scale models of a number of Navy airplanes and scale

models of the Aircraft Carrier "USS Yorktown" and the Cruiser "USS Wichita," and Models of the "USS Akron," the airship hangar at the Naval Air Station at Lakehurst, N.J., the Naval Aviation insignia, and equipment used in connection with Naval aviation were also included in the Navy exhibit.

The exhibit of the National Advisory Committee for Aeronautics included working models of a wind tunnel, seaplane testing tank and a free-spinning wind tunnel.

The U.S. Coast Guard exhibited pictures of the Coast Guard aviation action and equipment used by the Coast Guard.

The Post Office Department had a display of stamps and Air Mail covers, including covers on the first air mail flights. A postal station was established, and covers for the demonstration flights between Bolling Field and Washington Airport were sold. Official cachets were applied to all philatelic mail. A cachet of different design was applied to covers transported on the autogyro planes and those transported on the pick-up planes.

Other exhibitors were Martin Aircraft, Bendix Products, Pioneer Instrument Company, Hamilton Standard Propellers, Goodrich and Firestone Rubber Companies, which included one of the tires made for the Army B-19 airplane now under construction. This tire is 96 inches in diameter and has a carrying capacity of more than 70,000 pounds. The U.S. Steel Corporation Exhibit included an airplane wing and other airplane parts made of stainless steel, using a new process called "Shotweld" instead of rivets. Other exhibits, too numerous to mention, made up the remainder of the Show.

A number of different types of Army airplanes were on exhibition outside of the hangars, along with a TWA Strato-liner and a Navy Patrol-Bomber, also a number of other airplanes manufactured for private use.

Included in the Show's program were flights to the field of Air Corps units at Langley and Mitchel Fields and units of the U.S. Navy and Marine Corps. Searchlight and anti-aircraft missions were performed by the National Guard.

The Show was officially closed at 11:00 p.m., May 30th.

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Captain F.H. Smith, of the 36th Pursuit Squadron, Langley Field, brought in a spanking new AT-6 from the West Coast the other day. Says the News Letter Correspondent: "The 'Peep and Squint' boys will now have the long awaited opportunity to do more squinting and less peeping in a ship equipped for blind flying."

THE THIRD ARMY MANEUVERS

By the Barksdale Field Correspondent

An armada of approximately 320 fighting ships of the U.S. Army Air Corps assembled at Barksdale Field, La., May 23rd to 25th, inclusive, during the Third Army Maneuvers, and gave the nation its first demonstration of complete military maneuvering, plus a simulation of the land and air operations which have been going on in Europe.

Three Wing Headquarters were established at Barksdale Field as a complete general air force, with Brigadier General Frederick L. Martin, Air Commander.

The provisional fighting unit took to the air on the morning of May 24th to participate in preliminary bombing, ground strafing, reconnaissance and pursuit fighting. The following day the Combat armada swept through the mock war area in simulated total air and land "blitzkrieg." Individual planes in various flights went wing tip to wing tip in the final smash, while on the ground tanks, horse and mechanized cavalry, foot and mechanized infantry, field artillery, machine gun units and truck trains staged what was the fastest moving attack and retreat ever demonstrated in the United States.

Setting up the provisional Air Force at Barksdale Field was accomplished with smoothness and speed. Under the command of General Martin were three Provisional Wings. The Pursuit Wing, comprising 125 fast Fighters, was the Second Wing, under the command of Brigadier General Arnold N. Krogstad, normally Commanding General of the Second Permanent Wing (Heavy Bombardment) at Langley Field, Va. The First Provisional Wing, Heavy Bombardment, was made up of four-motored Bombers from General Krogstad's normal command. It was under the command of Major Harold L. George. The Third Provisional Wing, with medium and light Bombardment planes, was under the command of Colonel John C. McDonnell, normally commander of the Third Bombardment Group at Barksdale Field, La.

In addition, there were the usual reconnaissance units, headed by the 16th Reconnaissance Squadron, Barksdale Field.

The personnel demonstrated highest efficiency throughout the maneuvers. The work of assembling this force by radio orders in approximately 18 hours from the Atlantic and Pacific Coasts, the Canadian Border and Virginia, was a masterpiece of execution by the GHQ personnel.

The air end of the Maneuvers was carried out splendidly. To the spectator it was a wonderful sight as the planes

led cavalry, tanks and infantry of a Red Army of 50,000 men against a retreating Blue army of 40,000, theoretically dropping tons of explosives and firing thousands of rounds of machine gun fire at fleeing troops.

The 16th Provisional Observation Squadron, organized for the Third Army Maneuvers, and composed of members of the 27th Bombardment Group (L), Barksdale Field, La., has been laid to rest. This Squadron was the eyes of both the Blue and Red forces during the Maneuvers. Satisfactory operations of the communications section, under the able supervision of Sergeant Joseph H. Landry, made it possible for the red and blue pins marking the battle area on the operations wall map to be continually on the move. Not a message was lost.

Under the direction of Major Y.A. Pitts, Group Operations Officer, airplanes comprising the 16th Squadron shuttled back and forth covering thousands of miles of terrain and bringing in the bacon in the form of photographs of every important objective passing under their wings.

During the Third Army Maneuvers, the 8th Bombardment Squadron (L), Barksdale Field, La., saw action actually as a Light Bombardment Squadron, using A-18's exclusively. A wide variety of missions were flown, such as attacks on enemy airdromes, tank organizations, anti-aircraft batteries, convoy trucks and ground strafing of troops. The "Jeeps" have performed creditably, too, thanks to superb maintenance.

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MORE TELETYPE OPERATORS QUALIFY

Lieut. Wendell W. Bowman, commanding the 2nd Communications Squadron and principal director of the Langley Field school for training teletype operators, announced that 15 Air Base enlisted men were recently examined in the operating and procedure of teletype machines and were found qualified as experienced operators, viz: Robert E. Adams, George E. Clemens, Roger J. Evans, 36th Pursuit Squadron; Wm. C. Brunner, Wm. E. Fleming and Harry Lishman, Hqrs. and Hqrs. Sqdn., 8th Pursuit Group; Taddeus M. Domzalski, Francis K. McCown and Joseph H. Walsh, Hqrs. and Hqrs. Sqdn., 2nd Bomb. Group; Donald V. Goodhart, 96th Bomb. Sqdn.; Joseph Majchrowski, 22nd Pursuit Sqdn.; Harry A. Mintz, John Park and Robert F. Sladek, Hqrs. and Hqrs. Sqdn., GHQ; and Hal A. Trenner, Base Hqrs. and 1st Air Base Squadron (Double).

COL. LARNER BECOMES MANAGER OF THE NAA

Moving to expedite cooperation for national defense, as well as to promote all phases of civilian aviation, the National Aeronautic Association, through its president, Captain Gill Robb Wilson, announced the appointment, effective June 3, 1940, of Lieut. Colonel G. deFreest Lerner, Air Reserve, as General Manager.

A native of Washington, D.C., and son of the late Robert Martin Lerner, noted newspaper correspondent in the National Capital and charter member of the Grid-iron Club, Colonel Lerner has been continuously identified with aviation since 1917.

During the World War, Col. Lerner was a corporal in the famous Lafayette Escadrille, French Flying Corps, and Captain in the 103rd Pursuit Squadron, U.S. Air Corps. He is officially credited with the destruction of seven enemy planes, and was awarded the Distinguished Service Cross with Bronze Oak Leaf, the Croix de Guerre with three Palms, and three Silver Star citations. Upon his return to the United States in 1919, he was made Chief of Pursuit Training for the Army Air Corps. He resigned his commission in September of that year to complete his university education at Columbia, from which he graduated in 1921, having specialized in commercial and investment banking, corporation finance and accounting. From 1921 to 1930, Col. Lerner was with the Guaranty Trust Company of New York and Brown Brothers and Company, of New York City, resigning as manager of the bond department of the latter firm when it was merged with W.A. Harriman & Co., in 1930.

Col. Lerner's public service career included work with General Hugh S. Johnson as a Deputy N.R.A. Administrator, as Secretary of the Industrial Relations Committee of the Business Advisory Council, and as Special Assistant to Administrator John D. Biggers of the Unemployment Census. Since 1938, he has been Special Assistant to Administrator Nathan Straus, of the United States Housing Authority.

Col. Lerner has approximately 2,000 flying hours to his credit, and as a Reserve officer has maintained his flying proficiency in the latest Army equipment. He has a blind flying certificate from the Bolling Field School, and uses beam and radio facilities when flying. In the past six years he completed four Air Corps active duty training periods of two weeks each, and recently returned from two weeks' flying service with the GHQ Air Force at Langley Field, Va. In October, 1939, he

made a confidential survey and report for the Chief of the Air Corps on the Aviation Expansion Program.

He has traveled extensively in South America and Mexico, as well as in Europe, studying social and economic conditions and with particular attention to the development of aviation.

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19TH AIR BASE SQUADRON MOVES TO MCHORD FIELD.

After weeks and months of rumors, the 19th Air Base Squadron started riding the railroad wheels for their new home at McChord Field, Tacoma, Wash., the train leaving Hamilton Field, Calif., on the morning of June 4, 1940. The special troop train bound for the northwestern station carried 196 enlisted men of the lower grades, 5 Staff Sergeants, and one officer, 2nd Lieut. T. S. Morse. The News Letter Correspondent states that this was probably the first time that the Air Corps ever traveled in such elaborate style in such large numbers.

The resourceful Sgt. Laney and his three capable cooks, Pvs. 1st Class Hamilton, Alderson and Skaggs, bore the brunt of the trip by agreeing to feed this hungry personnel for the 24-hour duration of the trip. The train, made up of six Tourist Sleeping cars, one dining car and one baggage car, traveled by the way of Napa Junction to Davis, and then northward. The dining car is one used by the railroad for feeding groups of C.C.C. men. It is arranged with two long tables and benches built the full length of the car on each side. Rations for the trip were taken from Hamilton Field. A porter kept the car clean, saw to it that the ice box was filled and placed water in the kitchen containers. Each of the Tourist Sleepers carried a porter.

In addition to the personnel traveling by rail, 6 officers and 39 enlisted men of various grades traveled to McChord Field by private conveyance.

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NEW OFFICERS FOR MOFFETT FIELD

Announcement was made at Moffett Field, Calif., that 115 new Army officers, all members of the latest class to graduate from the Air Corps Training Center, will arrive at that field about July 1st. These officers are being sent to Moffett Field for permanent duty, and will receive 12 weeks of intensive training prior to being assigned to tactical units. They will perform tactical duties with the 20th and 35th Pursuit Groups and 82d Observation Group.

THE PROBLEM OF RAIN, SNOW, AND DUST STATIC

By the Wright Field Correspondent

All pilots have noticed that in some conditions of flying in rain, snow, or dust, radio interference is experienced which seriously interferes with radio reception and frequently gets so bad as to block out all reception. At other times, when flying in rain, no interference is experienced and the radio is clear as a bell.

The first condition is caused by the airplane flying in a heavily charged atmosphere. The charged rain, snow, and dust particles in this atmosphere impinge on the airplane structure and transfer their charge to the airplane, resulting in the case of large airplanes in a charge on the airplane of as much as 100,000 volts. Radio interference is caused when this charge leaks off from rivets or sharp edges of the airplane structure.

It is necessary to differentiate between thunderstorm-static and rain, snow, and dust static. Thunderstorm static is caused by electric discharges between clouds or between clouds and the ground. Usually, this form of static does not block out all reception because between crashes sufficient quadrantal identification can be heard to permit flying a radio range for short distances of, for example, 50 to 100 miles. It may, however, prevent voice communication. Very little can be done to eliminate the bad effects of thunderstorm static on low frequencies. All forms of static will be reduced to a negligible degree of intensity if and when our communications operate on ultra high frequencies.

There are two methods at the present time of cutting down interference of radio reception caused by rain, snow, and dust static: use of the radio compass on "Rec. Loop" and use of trailing wire dischargers.

For the first method, use the radio compass and place on "Rec. Loop." If loop is rotatable as on B-13 or C-39 airplanes, rotate the loop until plane of loop points toward desired station, that is, on 90 or 270 degrees for stations in direction of flight. If loop is not rotatable, as for example on BC-1A or A-17 airplanes, turn airplane until fore and aft axis of the fuselage is perpendicular to airplane radio station line. The compass loop has an electrostatic shield which reduces static pickup. As we all know, loop antennas have their maximum signal pickup when the plane of the loop is pointed toward the desired station. It is the experience of the Aircraft Radio Labo-

ratory that under conditions of rain, snow, and dust static the above operation of the compass on "Rec. Loop" will usually reduce such static to a point where it is possible to follow the radio range. However, for operation of the communication equipment additional devices, such as trailing wire dischargers are necessary.

The second method involves use of trailing wire dischargers which are let out through the tail cone of the airplane. Three types of such dischargers are now being tested by the Aircraft Radio Laboratory to determine if they can be adapted to meet the requirements of military aircraft. Two of these can be reeled in and out for purposes of test. The third type is the Bendix trailing wire discharger which when released stays behind the ship and is usually broken off on landing. The Bendix discharger is ten feet long. Five feet consist of carbon impregnated cord, rubber covered for weather protection, and five feet of .03 stranded steel wire with a small paper cup on the end. When the pilot throws a switch, a fuse is burnt out which causes a spring to trip and eject the discharger. The Bendix type is extensively used by United Airlines. The theory behind trailing wire discharger is to furnish discharge points smaller than any other points on the structure of the aircraft and to locate these points far enough away so that the field set up by the discharges from them will be attenuated to a low value when it reaches the receiving antenna.

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SAME B-17 BOMBER AT SAN FRANCISCO FAIR

Hamilton Field is well represented at the San Francisco World's Fair, with Lt. W.R. Stark, 5th Air Base Squadron, and Lt. John E. Dougherty, 11th Bombardment Squadron, who are assisted by Sgt. Wm. E. Bostwick, 22nd Bomb. Squadron; Staff Sgt. Nolan E. Thibodeaux and Sgt. Elden W. Meeker, 9th Bomb. Squadron; Sgt. Howard D. Nichols and Cpl. Albert J. Alexander, 11th Bomb. Squadron; Sgt. Benhart E. Melartin and Cpl. Robinett A. Potts, Hqrs. and Hqrs. Squadron, and Pvt. Dallas E. Hawley, 88th Reconnaissance Squadron. The B-17 plane used at the Fair last year was reconditioned at the Sacramento Air Depot and is now on exhibition at Treasure Island. More than 1,600,000 sightseers went through this Bomber last year. The plane was transported by river barge.

V-8491, A.C.

CHANUTE FIELD POPULAR WITH VISITORS By the News Letter Correspondent

Testimony as to the popularity of Chanute Field with civilian visitors may be found in the many letters on file in the Public Relations Office, Chanute Field Branch of the Air Corps Technical School, Rantoul, Ill. Undoubtedly, the foremost reason for this may be attributed to the fact that we are fortunate enough to have the bulk of the Air Corps Technical Schools located here. The general public has come to regard Chanute Field as the university of the Army Air Corps, and, in full consideration of the advantages offered the enlisted men of the Air Corps through the schools at this station, this scarcely seems to be an overstatement. Also of wide interest is the large scale expansion program in progress.

We quote verbatim two of the letters we have on file, because they are representative of all letters and of general interest. The first letter, from the Physics Instructor, Burlington Junior College, Burlington, Iowa, is as follows:

"May we thank you again for your courtesy last Tuesday? Our students have shown that they enjoyed the trip to Chanute Field, and there is much evidence that they learned as much as they could assimilate in one day. Sergeants Dysinger in Mechanics and Morton in Communications were such valuable guides that we had trouble to get the students away."

In this instance, Chanute Field not only gained the good will of the visiting group, but a bit of publicity as well. The second letter, a request for a speaker, is quoted as follows:

"As chairman of the May program committee for Rotary, I am interested in securing a good speaker for our Memorial day program which is being held on Tuesday, May 27, and I hope you will be able to help us out."

The subject matter of course would be left somewhat to the discretion of the speaker. However, if he touches some on Memorial Day and then works into what the Air Corps has and what it needs, I believe it would be very interesting, especially at the present time."

Needless to say, both matters were given prompt attention.

From April 1 to May 25, 1940, twelve groups of visitors were conducted through the Chanute Field Branch of the Air Corps Technical School. These groups varied from 30 to 100 persons each and spent at least three hours

time touring the School facilities. Of this number, it is conservatively estimated that 75 percent were high school youngsters. Equally as popular with Clubs, Rotarian groups, etc., are the addresses given by Chanute Field officers, and during the above mentioned period ten talks were made by officers of this station.

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AT-6 AIRPLANE DELIVERED TO 22D PURSUIT

"After many weeks of rumors," says the News Letter Correspondent of the 22nd Pursuit Squadron, Langley Field, Va., "we finally have our AT-6, which will soon be out for a 40-hour check. All of the boys in the Squadron have been checked out in it and are building up instrument time which most pilots lack because of the ruling of no under-the-hood flying in P-36's. Everyone likes the ship, and the performance is surprising when compared with similar ships at the flying school."

Basically, the AT-6 (North American) advanced training plane, is an improved model of the BC-1A (Basic Combat), which was selected after competition with other entrants in tests conducted by the Materiel Division at Wright Field.

It is a two-place, low-wing monoplane of all-metal construction. The equipment includes instruments, flaps, controllable pitch propeller, landing lights, and retractable landing gear. It is powered with a 9-cylinder Pratt & Whitney radial engine. The gross weight is approximately 5273 pounds; the wing span, 41 feet 10 inches.

One of the most interesting features of this plane is the provision for "blind" flying. Full equipment is installed in the rear cockpit, together with a blind flying hood under the sliding canopy top. In emergency, the hood can be released either by the student or by the safety pilot in the front cockpit.

The primary use of the AT-6 will be as a transition airplane which will provide students, who have mastered primary and basic training airplanes, with the intermediate experience required before they are ready to fly Pursuiters, Bombers and other tactical types. As a secondary mission, the AT-6 will be suitable for Air Corps pilots on duty away from tactical units. By using this airplane to maintain flying proficiency, the larger and more expensive tactical airplanes will be left free for purely tactical purposes.

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10 PROMOTION OF AIR CORPS OFFICERS

Lieut. Colonel Hubert V. Hopkins was promoted to Colonel (temporary), with rank from May 27, 1940; Major Dache McC. Reeves to Lieut. Colonel (temporary) and Captain Russell E. Randall to Major (temporary) with rank from June 6, 1940.

The following-named First Lieutenants of the Air Corps were promoted to Captain, with rank from June 12, 1940:

Ralph P. Swofford, Jr.	Troup Miller, Jr.
Paul E. Ruestow	William D. Eckert
George F. Schlatter	Lauris Norstad
Howard M. McCoy	Millard Lewis
Charles W. Haas	Othel R. Deering
Aubrey K. Dodson	John C. Kilborn
Mark E. Bradley, Jr.	Carl A. Brandt
Douglas M. Kilpatrick	Richard S. Freeman
Wiley D. Ganey	Harold L. Smith
Thetus C. Odom	Norman R. Burnett
Walter C. Sweeney, Jr.	Richard J. O'Keefe
Morris J. Lee	Joseph A. Miller
Marvin L. Harding	Kurt M. Landon
Birrell Walsh	Gerry L. Mason
David H. Baker	H. Paul Dellinger
James S. Sutton	Daniel A. Cooper
Edwin S. Perrin	Sory Smith
Neal E. Ausman	Paul W. Blanchard, Jr.

The following-named Second Lieutenants of the Air Corps were promoted to First Lieutenant, with rank from June 12, 1940:

Jack N. Donohew	John T. Shields
John D. Stevenson	Curtis R. Low
Nils O. Ohman	Richard H. Hackford
George L. Holcomb	Harry E. Hammond
Wm. R. Clingerman, Jr.	Jack E. Caldwell
Walter Eckman	Edwin B. Broadhurst
Richard P. Klocke	Charles B. Westover
Harold B. Wright	Horace Greeley
John F. Batjer	Joseph A. Miller, Jr.
Thomas A. Holdiman	Samuel C. Gurney, Jr.
Kenneth S. Wade	Harvey C. Dorney
Donald B. Brummel	Conrad H. Diehl, Jr.
John G. Eriksen	Charles A. Sprague
Harry F. van Leuven	William E. McDonald
Richard R. Barden	Jasper N. Durham
Charles L. Robbins	John R. Ulricson
Wilbur H. Stratton	Lawrence A. Spilman
Richard W. Fellows	William G. Hipps
Whiteford C. Mauldin	Marshall R. Gray
Bruce K. Holloway	Colin P. Kelly, Jr.
Alvord Rutherford	Woodrow W. Dunlop
Maurice A. Preston	Kenneth O. Sanborn
Ivan W. McElroy	William J. Cain, Jr.
William K. Horrigan	Malcolm Green, Jr.
Alan D. Clark	Thomas E. Powell
Robert H. Herman	Charles W. Stark, Jr.
Floyd J. Pell	Gordon C. Leland
James Y. Parker	Morton D. Magoffin
Sam W. Agee, Jr.	James T. Posey
Robert Taylor, 3d	Render D. Denson

Master Sgts. Sidney Miller, 11th Bomb. Squadron, Hamilton Field, Calif., and Daniel Stone, Base Hqrs. and 6th Air Base Sqdn., Barksdale Field, La., are retired from active service, effective June 30, 1940.

WAR DEPARTMENT SPECIAL ORDERS Changes of Station

To Barksdale Field, La.: Lieut. Colonel Wm. B. Mayer, from Scott Field, Ill.; Captain Dixon M. Allison, from Selfridge Field, Mich.

To Bolling Field, D.C.: Captain Arthur LaS. Smith, from Randolph Field, Texas; Captain Minton W. Kaye, from Hawaiian Department.

To Cambridge, Mass.: 1st Lieut. John B. Cary, from Hawaiian Department, to pursue course of instruction at Harvard Graduate School of Business Administration.

To Dallas, Texas: 2nd Lieut. James B. Upton, from Randolph Field, for duty with Air Corps Training Detachment, Dallas Aviation School and Air College.

To Fort Myer, Va.: Major Arthur I. Ennis, from Office of the Chief of the Air Corps, Washington, D.C., for duty with the Staff and Faculty of the Coast Artillery School.

To Hawaiian Department: Colonel Charles T. Phillips, relieved from detail as a member of the War Department General Staff, Washington, D.C.; Captain William C. Dolan, from duty with 22nd Observation Squadron, Brooks Field, Texas.

To Kelly Field, Texas: Colonel Shepler W. Fitzgerald, from Hawaiian Department; 2nd Lt. Thomas E. Powell, from Moffett Field, Calif.

To Ladd Field, Fairbanks, Alaska: Major Everett S. Davis, from Barksdale Field, La.

To Langley Field, Va.: Major Joseph Smith, Captains Joseph C.A. Denniston, David P. Laubach, 1st Lts. Lauris Norstad, Karl Truesdell, Jr., 2nd Lts. Earl E. Bates, Jr., and Robert C. Sexton, from Mitchel Field, N.Y.

To Lincoln, Nebr.: 2nd Lt. Maurice R. Lemon, from Randolph Field, for duty with Air Corps Training Detachment, Lincoln Airplane and Flying School.

To MacDill Field, Tampa, Fla.: Captains Draper F. Henry and George H. Macnair, from Langley Field; 1st Lt. Edwin J. Timberlake, Jr., from Brooks Field, Texas.

To McChord Field, Wash.: 1st Lieut. John A. Hilger, from March Field, Calif.

To March Field, Calif.: Major Byron E. Gates, from duty with staff and faculty of the Air Corps Tactical School, Maxwell Field, Ala.

To Pasadena, Calif.: Lieuts. Carl F. Damberg and Charles H. Texhune, Jr., to pursue course of instruction at California Institute of Technology.

To Patterson Field, Ohio: Captain Murray C. Woodbury, from Wright Field, for duty with 1st Transport Squadron.

To Randolph Field, Texas: 1st Lt. Leslie Raybold, from duty with Air Corps Training Detachment, Grand Central Air Terminal, Glendale, Calif.

To Washington, D.C.: Major James F. Phillips, from Kelly Field, Texas, for duty in Office of the Chief of the Air Corps.

To Scott Field, Ill.: Lieut. Col. Wolcott P. Hayes, from duty at Hqrs. 4th Corps Area, Atlanta, Ga.

To Washington, D.C.: Captain Edward H. Alexander, from duty at Alan Hancock College of Aeronautics, Santa Maria, Calif., for duty

(Continued on Page 11)

PHOTOGRAPHY - HOW ACCOMPLISHED AT NIGHT
By a Wright Field Engineer

transfer of
the battery
also off
the axis
of the
camera

The practice of taking aerial photographs at night presents a number of interesting problems, some quite technical in nature. It also calls for the use of scientific equipment and a technique which involves thorough preparation and careful execution. The art of taking pictures consists essentially of causing rays of light reflected from the subject to fall upon a piece of sensitized material; usually photographic film, with light energy being transformed into chemical energy, to be utilized later in the developing process. A lens is employed to focus all the reflected light from one point on the subject upon a single point on the film, so that a sharply defined photograph will result.

When aerial pictures are taken in daylight, the camera is focused upon the desired subject matter and an exposure made in accordance with the intensity of the sunlight reflected from the subject. At night everything is different. The subject is reflecting no light, because there is none to reflect. Its location is not immediately apparent, because the landmarks so familiar in daytime can no longer be seen. Neither are there beacons or radio beams to guide the airplane to the spot. The illumination necessary is provided by photoflash bombs dropped from the photographic airplane. The present bomb is the Type M-12A1, which is suspended horizontally in the bomb racks of the airplane, or may be mounted in a vertical position in racks provided for the purpose.

The camera is precision equipment and must be handled with care. It is electrically operated by a photo-electric cell, or "electric eye," which causes the shutter to trip at the same instant the light from the bomb is illuminating the ground. It is installed in a cushioned gimbal mount.

The lens cap is left in place to prevent injury to the expensive lens during take-off, or the camera is swung into a position which will protect it from gravel or similar material which might be thrown against it. The photo-electric cell is mounted in a fixture provided for the purpose.

The camera must be thoroughly checked and tested before leaving the ground. When all electrical connections have been made, it is wound by means of a hand crank, and the main power switch turned on. Among other things, this operation illuminates a small voltmeter carrying a push button switch which is

used to check the condition of the "B" batteries in the electrical unit. When these batteries have been checked, the rheostat is adjusted to give the proper voltage from the airplane power supply. Now light is caused to fall upon the photo-electric cell, using a pocket flashlight or the small lamp on the camera. The sound of the clicking and shutter indicates that the camera is in readiness. The main power switch is now turned off, and a sufficient quantity of film, either cut or roll, is placed near the camera, ready for use.

A number of flashlight bombs must be carried on each mission, in order that one bomb will be available for each photograph to be taken. These bombs must be carefully removed from the shipping container in which they are received, and the suspension straps attached if they are to be suspended horizontally. They are suspended in the bomb racks and armed by a short wire in the same manner as demolition bombs. When carried in the vertical position in special racks, they are placed and armed in the method used for landing flares. All items must be checked to insure that the bombs will fall freely without any possibility of fouling. When these preparations have been completed, the airplane is ready to embark upon the photographic mission.

In the air, the camera photo-electric cell is made ready. The location of the subject to be photographed is determined by the pattern of ground lights, by the aid of moonlight or starlight if available, or by the light of flares. If moonlight or ground lights render the subject visible, a trial flight over it is usually advisable.

For this trial flight, the subject is approached at the desired altitude, namely 2000 to 3500 feet, with the lowest reasonable speed of which the airplane is capable, and with the airplane thrust line as nearly horizontal as possible. The airplane should be flown into the wind in order to eliminate error due to drift and to permit the photographer to determine the necessary crab setting for the camera. On the trial run, the photographer must also determine the point above which he must release the photoflash bomb, in order that the proper subject matter will be within the field of the lens when the bomb explodes. Here it must be remembered that the M-12A1 bomb explodes approximately seven seconds after release. Errors in judging the true vertical when determining the point over which

to release the bomb will cause the desired subject matter to lie away from the center, or entirely outside of the area photographed.

When the photographer signals the pilot that all is ready, a second flight is made over the area to be photographed. The film must be placed in the camera, the camera wound, the power turned on, and the camera leveled by means of its built-in spirit level. This latter operation insures that the axis of the camera does not deviate from the vertical. When the proper spot has been attained at which to release the bomb, the photographer pulls a handle located at his side, or, if releasing mechanism is not located at the camera station, signals the bombardier. As soon as the flash of light from the bomb is observed, the power is turned off at the camera, and the same preparations are repeated for successive photographs.

If it is desired to make a mosaic strip of overlapping photographs, a succession of bombs is dropped at predetermined intervals with the camera being reset and the film changed for each photograph. The determination of the proper bombing interval involves considerable calculation at present, but will be simplified by the use of a special computer which has been designed at the Materiel Division, and which will soon be subjected to service test. The computer will permit the calculations to be performed in a very few seconds during flight. Standard equipment is available at the various Air Corps activities and numerous satisfactory night photographs have been produced.

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War Department Orders (From Page 9)

in the Office of the Chief of the Air Corps. To Wright Field, Ohio: Major James E. Parker from duty with staff and faculty of Air Corps Tactical School, Maxwell Field, Ala., for duty in Materiel Division.

Relieved from duty with the U.S. Mission to Argentina, Buenos Aires, the following Air Corps officers were assigned, as follows: Capt. John T. Martha, Jr., to Barksdale Field, La.; Elwood R. Quesada to Office of the Chief of the Air Corps, Washington, D.C.; and 1st Lt. Millard L. Haskin to Langley Field, Va.

First Lieuts. George R. Smith and James F. Thompson, Jr., upon completion of their present course of instruction at the Massachusetts Institute of Technology, Cambridge, Mass., are assigned to Mitchel Field, N.Y., and Randolph Field, Texas, respectively.

Col. Oliver P. Gethlin was relieved from assignment to the Hawaiian Department and ordered to proceed to his home to await retirement.

29TH BOMBARDMENT GROUP REACHES TAMPA

Comments of the Correspondents of the various units of the 29th Bombardment Group, which moved recently from Langley Field, Va., to Tampa, Fla., are given below, as follows:

Hqrs. and Hqrs. Squadron: This Squadron completed a very successful move to MacDill Field on May 21st, the last contingent arriving by train at 7:30 p.m. The personnel living off the post have been very busy trying to locate houses, unload their furniture and become settled as best they could. At present tents are being set up and offices made ready for engineering, operations, etc.

The people of Tampa have done everything possible to make the Army feel at home. A service club has been organized with its headquarters downtown, and a noncommissioned officers' club is in process of organization.

6th Bombardment Squadron: On Tuesday evening, 7:30 p.m., May 21, 1940, fifteen Pullman and baggage cars, representing the major part of the 29th Bombardment Group, pulled into Tampa, Florida, to "take over" the new Southeastern Army Air Base under the Air Corps Expansion Program.

After a hurried meal, a quick shower, and change of uniform, the majority of men were off to their new haven, "The Sunshine City," to make new connections over the old at Langley Field, Va.

It wasn't long afterward, though, that the effects of the long and tiresome journey could be seen on the faces of the soldiers and, as a result, dark silhouettes could be seen every few minutes barely struggling along the ankle-deep sand at MacDill Field after trying to take in the whole city in one short and warm evening.

Tampa, with its tall palmettos, large winter homes and dancing pavilions, provides a new type of recreation for the soldiers where it seems that the civilian population are doing everything possible to make their stay a pleasant one.

Until MacDill Field is completed, the crews of the various airplanes will operate from Drew Field, a distance of about four miles from Tampa.

43rd Bombardment Squadron: Past rumors concerning the moving to Florida became a thing of reality this month. The hammer and saw immediately became the main tools in the Squadron as crates were made and equipment packed. For several days there was a humdrum of activity, and finally the day arrived for which everyone had been waiting. When the troop train departed from Langley Field, there didn't seem to be enough windows in the train as the men took a departing glance at the field. The

following night the train arrived in Tampa, where trucks were waiting to transport the men to the field. The unloading of the trains was started the next day, and between trips on the trucks the men were able to form an opinion of MacDill Field and the vicinity.

Since their arrival in Florida, the men have found an attitude of good will everywhere they go. The photographers are kept busy taking various "shots" of the field and of the men at work. The people of Tampa are doing everything they can to make the Army feel at home and enjoy themselves.

52nd Bombardment Squadron: Following the arrival of the main body of this Squadron and a hearty supper at MacDill Field, the men moved into the barracks prepared for them by the advance echelon. On the following day, the task of unloading the supplies and equipment from the train was completed, and the men were given an opportunity to look over their new home.

The men have taken a great liking to this section of Florida, and the typical Florida sunshine and cool nights have appealed to them greatly. The residents of Tampa have shown a warm welcome to the personnel stationed here, and have taken a great deal of pride in having Tampa designated by the Army as the site of an Air Corps field.

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TALKS ON THE AIR CORPS OVER THE AIR

Colonel Jacob W.S. Wuest, Commanding Officer of the Langley Field Air Base, delivered a short talk over radio station WGH on May 29th. His subject was "The Army as a Career," and the talk was the first in a series of broadcasts by Air Corps officers under the general heading of "Highlights of the Air Corps."

Further talks were given at 9:00 p.m. on June 3rd, 5th, 7th and 10th, the speakers being Lieut. Colonel Theodore J. Koenig, Commanding Officer of the 25th Bombardment Group (Heavy), of the GHQ Air Force; Major Malcolm N. Stewart, Commanding Officer of Hqrs. and Hqrs. Squadron, 2nd Bombardment Group, GHQ Air Force; Major Demas T. Crow, Assistant G-2, GHQ Air Force, and Lieut. Leo P. Dahl, Base Meteorological Officer, all of Langley Field.

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The 35th Pursuit Squadron, Langley Field, in conjunction with the 8th Pursuit Group, made daily mass formation flights to Washington to represent the Air Corps at the Aviation Forum Meet held recently at Bolling Field, D.C.

2ND BOMB. GROUP IN 3RD ARMY MANEUVERS

The outstanding event of the past several weeks was the participation of the 2nd Bombardment Group, of Langley Field, Va., in the Third Army Maneuvers in Louisiana.

This Group, in collaboration with the West Coast unit, had been scheduled to form the 1st Provisional Wing, but due to the delay in arrival of the latter unit, the 2nd Group took over the functions of the entire 1st Wing.

The flight southward moved like clockwork, with superb weather at Langley Field, along the route over the mountains, over the "bottoms" of the "Father of Waters," and at Barksdale Field where the heat seemed to your reporter to be at its hot-test.

On the afternoon of May 21st, operations were set up in the Operations Office of the 27th Bombardment Group (L), and at 3:30 the Field Order came through - the war was on. Then followed the hustling and scurrying of a busy staff, with orders, conferences, and reports coming with clock-like precision.

After several busy, but well enjoyed days, we and our "big uns" lifted into the air and sped home to Langley Field. Although bad weather was encountered along the way, our airplanes - in our estimation the best there are - took it in "stride."

In connection with these maneuvers, we, the members of the 2nd Bombardment Group, would like to express our thanks to the personnel of Barksdale Field for the aid they extended to us, thus helping us successfully to carry out our part.

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ADDITIONAL OFFICERS FOR 35TH PURSUIT

The 35th Pursuit Squadron, Langley Field, Va., was augmented with 12 2nd lieutenants who recently graduated from the Advanced Flying School, Kelly Field, Texas. The flying personnel of the Squadron consists of Captain Francis H. Griswold, commanding; 1st Lieut. Peter McGoldrick, Adjutant; 2nd Lieuts. Norris Perry, Operations Officer; William K. McNow, Senior Flight Commander; George W. Hazlett, Engineering Officer; Guy F. McCafferty, Communications Officer; Gilbert L. Myers, Supply Officer; Leonard C. Lydon, Edwin M. Ramage, Wm. W. Momyer, Joe K. McNay and Joe L. Mason.

The newcomers are James J. Flood, Raymond K. Gallagher, Eugene H. Hallwill, Vincent W. Howard, Mack E. Hubbard, Hoyt A. Jolly, Loren G. McCollom, David R. McGovern, George E. Meeks, Norman G. Morris, John G. Patterson, Rob't T. Rose.

V-8491, A. C. Smith

WINGS

By Flying Cadets Delwin B. Avery and George E. Brown, Univ. of Utah, '39

Q: "Do you want wings?"

This question impressed me at first in much the same manner that anyone would be impressed if he were asked: "How would you like to have a million dollars?" It seemed ridiculous to me that anyone would not like to learn to fly. Most of us have gone through that pre-adolescent period when the heroes of our young eyes were firemen, locomotive engineers, and, in the last decade, airplane pilots. Also, most of us, perhaps fortunately, never attain those youthful goals. However, I really wanted wings.

Early last spring the opportunity of realizing my ambition to become an airplane pilot was plopped in my lap by the U.S. Army Air Corps, which launched its much publicized expansion program at that time. The cost of flying training is so great that it had been entirely beyond the reach of people like myself who were fresh out of college and fresh out of money. Brief investigation of the Army's plan revealed an astounding offer to men of my status. Not only would we learn how to fly from the best instructors in the world, but in addition we would be paid \$75.00 per month, plus our clothing, board and room. After graduating from the nine months' course, we would be offered a \$250 per month position. What could I refuse? I literally grabbed at this offer with both hands.

I soon learned, however, that the Air Corps required a few things of me before I would be accepted. First, I must meet the physical requirements. This examination is to select physically normal applicants and eliminate those with defects or diseases which might become aggravated by flying training. This was sound and sensible to me. Second, I must meet certain educational requirements. I must furnish documentary evidence of graduation from, or satisfactory completion of two years' work at, a recognized college or university, or pass an examination the scope of which covers the equivalent of two years of college work.

I began to rationalize. Suppose I met the requirements and was accepted as a Flying Cadet. What then? I would be sent to one of the nine civilian schools scattered throughout the country, where I would receive flying and ground-school instruction under Army supervision. After completing three months' "primary" training, I would be sent to the West Point of the Air, Randolph Field, Texas, where I would re-

ceive three months' "basic" training in a much larger and faster airplane. Then would come the final three months of "advanced" flying at Kelly Field. Here I would be taught how to put to practical use the training of the previous six months. Cross-country flying, day and night, advanced instrument "blind" flying, radio-beam flying - all these comprise the course at the Army's Advanced Flying School. When this course was completed, I would receive a commission as Second Lieutenant in the Air Corps Reserve and be sent to one of the Army Air Corps tactical units for active duty in the best and fastest equipment in the world. Here I would be allowed to compete for a permanent commission if I chose to do so.

This was an opportunity I could hardly afford to decline. I had everything to gain. After nine months, I would be making more money than I could hope to make for many years following the civil profession for which I had prepared myself in college. A new life had opened up for me. Besides financial security, here lay the chance to step in on the ground floor of the most promising profession or industry on earth. It looked like a perfect post-graduate course for me. I would be preparing myself for such future work as airline managing, aviation sales and production, airplane designing and, above all, for a permanent commission in the United States Army Air Corps.

With all of these factors playing an important part in my decision, I met the educational requirements and took the physical examination. The examination was severe in that it required absolute normality anatomically, nervously, and mentally. Somehow I passed.

After a month of impatient waiting, I was informed that my application had been accepted, that I had met and passed all the examinations and had all the prerequisites necessary for appointment as a Flying Cadet, U.S. Army Air Corps. Enthusiastically, eagerly, and again impatiently, I awaited the day that I was to leave for San Diego, Calif., where I was to receive my first three months of primary training at the Ryan School of Aeronautics.

Upon my arrival at San Diego, I stepped into a new life, a life different from anything I had ever experienced or imagined, a life that opened up before me a glittering panorama that left me speechless. Meeting my classmates showed me that we were a group of wide-eyed freshmen who had just set foot on a big campus. Here we were, most of us college graduates, fired with ambition and confidence, cock-sureness, egotism and "wordliness," looking and acting like a

group of college freshmen getting their first taste of "higher education." How soon we were to learn that we really were freshmen, that we were just beginning a curriculum as intensively interesting, as comprehensively complete, as anything we had ever experienced in college!

While at San Diego, we received instruction in Engine Theory, Theory of Flight, Navigation, Meteorology, and related subjects, from the academic staff of the Ryan School. Our flying instructors were men of long experience, thoroughly qualified in all phases of flying, selected because of their ability and personality. Each civilian instructor had passed the special training course given at Randolph Field by the Army for the selection of instructors to carry out the program of the expansion.

The first three months at San Diego were a period of adjustment, of learning, of work, of regimentation, interrupted frequently by pleasant relaxation, athletic participation and social functions. Our life was full and complete, and vastly interesting. The Army had taken a heterogeneous group of young men from every walk of life, poured them into a common mold, and at the end of three months, launched them upon the second phase of training which, when completed, would include them amongst the best military pilots of their day.

From the first intensely exciting moment of my first solo flight, to the completion of my last check flight at San Diego, the achievement of graduation and the obtaining of my "wings" became an obsession, a challenge to me. Initiative, self-reliance, cooperation, courage, consideration for others, teamwork, character, honesty, and many other attributes were required, and they all challenged me to prove to myself, instructors, friends, and most of all, the Army, that I could and would win my "wings."

Of necessity, there were some of our classmates who were eliminated. Some men could not learn to land their planes perfectly on three points and at the same time put their wheels down within a forty-foot circle from 500, 800, and 1,000 feet above the field. Others always seemed to get mixed up when flying acrobatically upside down while practicing loops, slow rolls, snap rolls, and Immelman turns. They lacked the ability to maintain their orientation no matter in what position they might find themselves. In a course as comprehensive and complete as this one, not everyone "has what it takes." Some, through no fault of

their own, lack what instructors choose to call "inherent flying ability." Without it a student might be dangerous, not only to himself but also to the men flying in other airplanes. The Air Corps refuses to take that or any other "won chance." It is no reflection on the individual to be "washed out" or eliminated from this course. It is a contingency that must be faced by the person concerned, and with it comes the realization that it is for the best interests of everyone. Those who have been eliminated need not feel ashamed or as that they are failures. Instead, they should give them a feeling of pride and self-satisfaction to know that they belonged, even for a short while, to the finest group of men who fly.

After completing the three months of training at San Diego, I was transferred to Randolph Field, Texas, to continue the training that had now become so much a part of my life. My first view of this beautiful magic city, as it unfolded before my eyes, made me gasp. The bright Texas sun reflecting from the red-tiled roofs, the beautiful landscaping and gardens, the winding drives, the clean white stucco homes arranged in perfect symmetry, all appear to have been reproduced from the fanciful imagination of an architect dreaming of his Utopia. Randolph Field is like an oasis in the vast Texas plain, retaining always its individuality, its refinement, its dignity.

I immediately became conscious that, as new and different as my life had been for the past three months, the next three months at Randolph were to be even more different and new. Randolph Field, steeped in tradition, honor, and discipline, gave me my first real conception of what the word "officer" means. Uninitiated and untutored as I was in the ways of the "militaire," I at first believed the stringent discipline, the hard and fast rules and regulations, the impersonal, unquestioning manner in which orders were given and accepted, were unfair and unjust. After the first few weeks, however, I came to realize that behind the hours of drill, the strict discipline, the inevitable inspections and parades, there lay a purpose and a plan. The comprehensive training to which we were subjected served to fit us better to become officers and gentlemen; it enabled us to be better prepared to fulfill the duties that would become ours upon graduation.

After three months of studying, of flying, and of occasional relaxation, Randolph Field became another stepping stone to my future, and I was transferred to Kelly Field. Here at Kelly, the

ed line of demarcation between officers and cadets is not so pronounced. There is constant supervision; the discipline is not so severe; and much more time is given for relaxation. We are now on the last phase of our training. Every day we fly wing to wing in tight formation over the vast Texas plains. Formation flying appeared very daring at first, but has become quite simple with practice and with the instruction of our flight commanders. We put to practical application our earlier courses in navigation, visiting on cross-country, in the most modern training planes in the world, such towns as Dallas, Houston, Brownsville, and Corpus Christi.

Our first cross-country was to a little auxiliary landing field 55 miles south of Kelly Field, called Pawnee. It is very difficult to find because of the lack of outstanding landmarks in its vicinity and because it blends in so well with surrounding fields. We generally have a little bet among ourselves as to who will and who will not find it. I didn't mind losing a wager, but I felt rather silly when an instructor flew up beside my plane and told me by radio that I had flown directly over Pawnee 20 minutes ago. My classmates on the ground saw me finally arrive from the wrong direction, trailing the instructor. However, by graduation, it would not be boasting to say that I shall be proficient enough to return to my former campus at the University of Utah without ever seeing the ground except for landings and take-offs. At the end of the course we will make cross-country trips flying under the hood on instruments and radio only. The highlight of my training at the Air Corps Flying School was night flying. Those who have never flown at night certainly have a thrill in store for them. The world is not the one we know, but hides beneath a shadowy coat studded with flashing jewels - a new world in itself, and a very beautiful one.

Graduation and the coveted "wings" are now but a matter of weeks away. As I now look back over the past seven months, for the first time I feel that my chances of graduation are good. The fear of elimination has, until now, been ever present. It has been no easy achievement. It has been a period of uncertainty, of constant endeavor, of countless nights spent wondering whether I would still be on the roll in a week or a month. Every day has been a test of my questionable ability of what I had learned the day or the week or the month before.

Contrary to the general consensus of

opinion, aviators are not a group of rattle-brained daredevils. We all have a mission - a job to perform. My classmate, Flying Cadet Perry, has phrased what I find difficult to express, thus:

"To many who are not pilots, the ultimate aim of flying is often overlooked, obscured by the spectacular. When a pilot has mastered his ship and acquired a working knowledge in meteorology and other subjects relevant to flight, the purpose of aviation unfolds itself. The long hours spent in ground school and in the air are the means to an end, which is the accomplishment of a mission.

"The task a civil pilot is entrusted with and the military mission of National Defense, though they differ in purpose, involve the same principles: The principles governing flight. They are too many to be enumerated. It is only after hours of flying, often tedious - more often, however, greatly enjoyed - that the pilot arrives at an understanding of the importance of his mission. More than merely piloting a ship to its destination, it is the accomplishment of an assigned task, the overcoming of obstacles often considerable, and behind it all, the significance of man's flight through the atmosphere. A realization of this, coupled with the fascination peculiar to flying, and to nothing else in the same sense, raises aviation from merely an avocation to a continuum of experiences, which defines it as a profession."

It wasn't patriotic fervor or emotional propaganda that made me take the step that I did last spring, but still I enjoy the wonderfully satisfying feeling of knowing that I am in a position where I can best serve my country in event of emergency. I have at least an appreciation of the expression "patriotism." No, it wasn't sense of duty; it was primarily the realization of a dream and the opportunity to make a good living that prompted me to enter this particular profession. I am proud in every sense of the word for what lies behind me and am looking forward to my future with the knowledge that I have something definite and tangible around which to build my life.

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Colonel Harold A. Strauss and Lieut. Colonel Rosenham Beam, Air Corps, have been detailed to the Inspector General's Department, the former reporting for duty to the Commanding General of the Panama Canal Department and the latter to the Commanding General of the Hawaiian Department.

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Y-8491, A.C.

BOMBING AND GUNNERY RANGES FOR AIR CORPS

A recent announcement of the Secretary of War, Hon. Harry H. Woodring, is to the effect that the War Department is taking immediate steps to acquire bombing and gunnery ranges for the Army Air Corps in the vicinity of Sacramento, Calif.; Wendover, Utah, and Tonapah, Nevada.

Because of the rapid expansion of the Army Air Corps during the year just passed and the further expansion now being undertaken under the recently announced directive of the President of the United States, there is an urgent necessity for adequate bombing and gunnery ranges for use by the Army Air Corps Bombardment Groups on the West Coast. The areas were selected as a result of a careful study which has been made by a Board of Air Corps officers. A description of the ranges selected is as follows:

Sacramento, Calif.: This range is located 15 miles east of the City of Sacramento and immediately adjacent to Mather Field, which was established during the World War for the training of pilots. It is approximately 4500 acres in area and lies about 30 feet above sea level. This range will afford an excellent all-year practice bombing and gunnery range for units stationed at Hamilton Field.

Tonapah, Nevada: The site is south and east of Tonapah; is irregular in shape; and is about 60 x 90 miles in area. It lies at an altitude of 6,000 feet above sea level which varies to 9,000 feet at the tops of the mountains located in the same area. The country is wasteland, rough and broken, and contains very little vegetation. It is a part of the public domain. The country surrounding the area is uninhabited. Weather conditions are excellent for all-year bombing and gunnery practice.

Wendover, Utah: This range has been selected for use as a high altitude gunnery and bombing range. It lies east of Wendover, Utah, and is about 54 x 108 miles in size. Lying about 4,000 feet above sea level, it consists of the bed of a dry lake, flat and having no vegetation. Weather conditions for all-year round practice are excellent.

"To properly train Air Corps tactical units, almost continuous use of a practice range within one hour's flying distance of the home base is a necessity," said Major General Henry H. Arnold, Chief of the Army Air Corps, in recommending the acquisition of these areas. "It is also necessary that our personnel make periodic use of high altitude demoli-

tion and gunnery ranges in order to familiarize themselves with all types of terrain over which they might be required to operate."

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AIR CORPS TECHNICAL SCHOOL GRADUATIONS

On May 24, 1940, the Chanute Field Branch of the Air Corps Technical School, Rantoul, Ill., graduated 128 students. Of this number, 95 were graduated from the Airplane Mechanics course, 23 from the Aircraft Metal Workers course and 10 from the Aircraft Welders course.

Two Majors of the Argentine Army Air Corps were among those who graduated on the above date, Luis E. Brzuela and Gustavo Hermanson, from Buenos Aires, Argentina. Upon return to their native country, these officers will further introduce the high standards of American aviation in their nation.

Below is a list of the number of students who graduated May 24, 1940, from courses and stations, as indicated:

	Airplane Mechanics	Aircraft Metal Workers	Aircraft Welders
Argentine Army A.C.	2	--	--
Barksdale	9	2	--
Bolling	6	1	--
Chanute	2	3	--
Duncan	--	1	--
Fort Crook	--	1	--
Fort Lewis	2	--	--
Fort Riley	1	--	--
Fort Sill	3	--	--
Hamilton	5	3	--
Kelly	3	1	--
Langley	15	2	--
March	16	5	--
MacDill	--	1	--
Maxwell	5	--	--
Middletown	2	--	--
Mitchel	7	1	--
Moffett	3	1	--
New Jersey Coast Guard	--	--	--
Randolph	6	--	--
Scott	2	--	--
Selfridge	5	1	--
Stewart	1	--	--
Total	95	23	10

The airplane mechanics were members of the December class, which was the third of the enlarged 100-men classes, and the fact that 95 of the 100 did graduate further attests to the high calibre of the students. However, the A.M. classes were increased from 100 to 200 students during the early part of March, 1940; 100 of this number attending classes in the new school facilities and the remainder receiving instruction in the old area.

BRIGADIER GENERAL AUGUSTINE WARNER ROBINS

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The Air Corps was shocked on Sunday morning, June 16th, to hear of the sudden death of Brigadier General Augustine Warner Robins, who succumbed to a heart attack at Randolph Field, Texas.

On the death of General Robins the Air Corps and the Army have lost an officer of great experience and outstanding ability in aviation, and his innumerable friends in all branches of the service will mourn the passing of a staunch friend and an inspiring example.

General Robins was born in Gloucester County, Virginia, on September 29, 1882. He attended high school in Richmond, Virginia, and was appointed to the United States Military Academy in 1903. Upon graduation from West Point he was assigned to the Twelfth Cavalry at Fort Oglethorpe, Georgia. He served with his branch in the Philippines and at Fort Robinson, Nebraska. In 1912, he went to the Military Academy as an instructor in mathematics. A year later he was with the Cavalry again at Fort Meade, South Dakota, and then became a student at the Mounted Service School. He was a member of the Punitive Expedition to Mexico in 1916 and remained on the Mexican Border until September, 1917, by which time he had been promoted to a Captain of Cavalry, and appointed a Major of Aviation Section, Signal Corps.

General Robins' first assignment in aviation was at Scott Field, where he began his flying training in 1917. He continued his training at Park Field, Millington, Tennessee, and qualified for the rating of Junior Military Aviator on August 9, 1918. Thereafter he served successively at Indianapolis, in the Office of the Director of Air Service in Washington, and at the Air Depot at Fairfield, Ohio, which he commanded until 1926. In June of that year he took a Special Observer's course at Kelly Field, Texas, and obtained the rating of Airplane Observer. Returning to the Fairfield Air Depot, General Robins remained on duty there until 1928, when he went to the Air Corps Tactical School at Langley Field. From this duty he was assigned to command the San Antonio Air Depot, where he served until November, 1931, when he went to the Materiel Division at Wright Field. In 1933, General Robins went to the Army Industrial College in Washington, which was followed by a tour at the Army War College. This latter course was interrupted in the

spring of 1935 by his appointment as Assistant Chief of the Air Corps with the rank of Brigadier General. He held this rank and assignment as Chief of the Materiel Division at Wright Field for the normal period of four years. Upon completion of this duty, on February 24, 1939, General Robins resumed his Regular Army rank of Colonel, and entered upon his last assignment as Commanding Officer of the Air Corps Training Center. During his last tour at Randolph Field, he carried out the difficult task of supervising the flying training of the expanded Air Corps with outstanding skill and success. His loss at this time of national emergency deprives the Air Corps of one of its ablest officers and most gallant gentlemen.

Surviving General Robins are his widow, Mrs. Dorothy H. Robins, and three daughters, Dorothy, Elizabeth and Helen, all of Randolph Field, Texas.

The deepest sympathy of the Air Corps is extended to his bereaved family.

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NEW COURSES AT CHANUTE FIELD

Two new courses of instruction were recently added to the curriculum of the Chanute Field Branch of the Air Corps Technical School, one for Weather Observers and the other for Weather Forecasters. The first group to receive instruction in the Weather Observers' course at Chanute Field will begin their class on August 12, 1940. Forty students will be enrolled in the class which will be conducted over a period of 22 weeks. The Forecasters' course will cover a period of 39 weeks, and it will open on September 16th with a class of 35 students. There will be only one class for Forecasters annually.

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FLIGHT SURGEONS GRADUATE

The following named medical officers who have been pursuing a three months' basic course of instruction at the School of Aviation Medicine, Randolph Field, Texas, graduated as Flight Surgeons on June 14, 1940. They were assigned to the station appearing after each name, viz:

Captains Louis K. Pohl, MacDill Field, Tampa, Fla.; Jack P. Scott and 1st Lt. Adanto A. S. D'Amore, Langley Field, Va.; Eldred Lam. Cann and 1st Lieut. Hubert T. Elders, Barksdale Field, La.; 1st Lt. A. C.

Lieuts. John A. Booth, Patterson Field, Ohio; Eugene M. Martin, Bolling Field, D.C., and Robert W. Robinson, Chanute Field, Ill.

Following introductory remarks by Lieut. Colonel Fabian L. Pratt, Medical Corps, Commandant of the School, he introduced Lieut. Colonel David N. W. Grant, M.C., Chief of the Medical Division, Office of the Chief of the Air Corps, who delivered a very interesting and inspiring address. Major John M. Hargreaves, M.C., Director of the Department of Ophthalmology and Otology of the School, then presented diplomas to the students, adding his personal congratulations and words of good cheer. The invocation and benediction were delivered by Chaplain E. J. Griffin. A number of distinguished guests, relatives and friends of the student officers were present.

The present class makes the fifty-second to graduate from the School since its establishment in 1919. In addition to the resident courses, the School also conducts a correspondence course for medical officers of the Organized Reserves and National Guard. There are 609 students enrolled in this course at the present time.

Another basic course will begin on July 15, 1940. Fourteen medical officers of the Regular Army are now under orders to report for this course, as follows: Captain Richard L. Bohannon and 1st Lieut. Charles E. Melcher, Langley Field, Va.; Captain Charles F. Haughey and 1st Lieut. John T. Martin, Mitchell Field, L.I., New York; Captains William F. Cook, MacDill Field, Tampa, Fla.; John R. McGraw, McChord Field, Wash.; John Brancato, Maxwell Field, Ala.; 1st Lieuts. Elwood E. Baird, Randolph Field, Texas; Julius J. Snyder, March Field, Calif.; William K. Sullivan, Barksdale Field, La.; James W. Brown, Hamilton Field, Calif.; George S. Boyer, Fort Riley, Kansas; Raymond C. Stiles, Fort Knox, Ky., and Roger L. O'Toole, Scott Field, Ill.

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BALLOON SQUADRON RETURNS FROM MANEUVERS

"The old fightin' First Balloon Squadron," says the News Letter Correspondent, "is back at Fort Sill after a month of maneuvers with the Third Army in the Sabine Area.

"The Squadron left Leesville, La., on the morning of May 27th at 4:00 a.m., for the return trip to Fort Sill. As we were 'blessed' with some worn out trucks that we were ferrying back to Fort Sill to be turned into the Quartermaster at this station, our progress was somewhat hampered by having to tow

several of them; and, too, rain squalls and thunderstorms forced us to land and stay on the ground for about two hours. However, before dark the Squadron was bivouacked at Hensley Field.

"Perhaps the troops who participated in the Third Army Maneuvers thought that they were accustomed to heavy rains, but this correspondent has never before seen a rain that could compare with the one that fell at Hensley Field on the night of May 27th. All available canoes, boats, rubber boots, pon-toons, etc., were put into use and, as a result of this action, no casualties were reported from drowning. The next morning each truck had to be pulled to high ground with the aid of the 'spider' and the strength of the entire Squadron. By ten o'clock we were on the last leg of our return trip. This was made without trouble, the balloon having to dodge numerous thunderstorms on the way in, and the Squadron arrived at Fort Sill, intact, at 5:00 p.m.

"During the month of May, the Squadron piled up a total of 136 hours and 40 minutes' pilot time, and for the maneuver as a whole a total of 170 hours and 35 minutes. The balloon was flown under extremely adverse conditions much of the time, and landing safely in the fields entirely covered with burnt stumps required no little skill on the part of our pilots. With this total of pilot hours, we believe that this is some sort of a record for a C-6 motorized balloon."

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WAR DEPARTMENT ORDERS

Majors Norman D. Brophy and George V. McPike are relieved from duty as instructors at the Army Industrial College, Washington, D.C., and assigned to duty at the Materiel Division, Wright Field, Ohio.

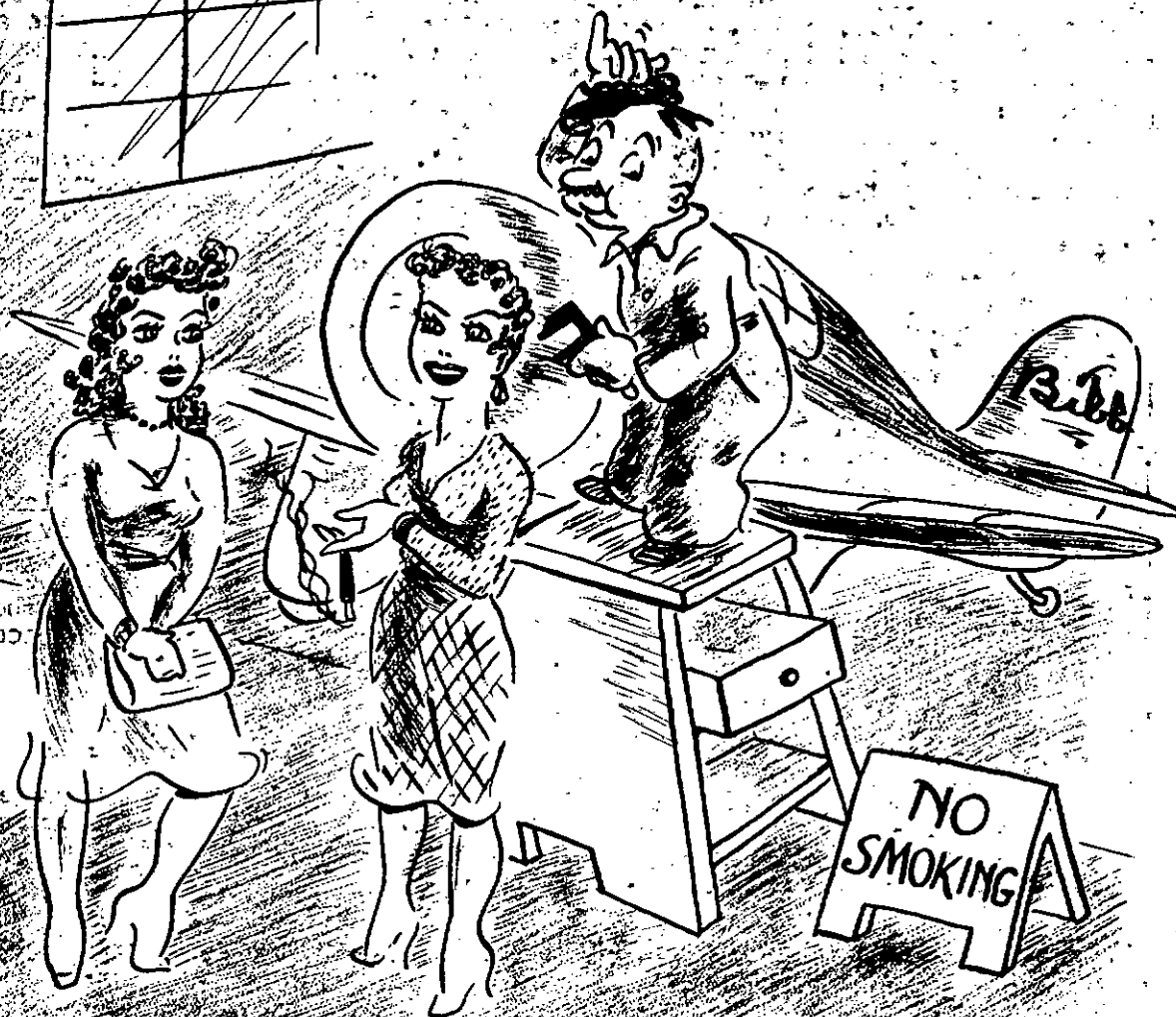
Major Edmund P. Gaines is relieved from duty at Wright Field, Ohio, and assigned to duty at Aberdeen Proving Ground, Md.

1st Lieuts. Norman L. Peterson, Clark L. Hosmer, Raymond T. Lester and David H. Kennedy are assigned to duty, respectively, at Langley Selfridge, Moffett and McChord Fields upon the completion of their present course of instruction at the California Institute of Technology Pasadena, Calif.

Colonel Arthur G. Fisher is relieved from duty at Scott Field, Ill., and assigned to duty at Headquarters, 9th Corps Area, Presidio of San Francisco, Calif.

Selected for detail as students at the Command and General Staff School, Ft. Leavenworth, for the Feb. 1941 course, are: Lt. Colonels Chas. E. Branshaw, Neal Creighton, Thomas W. Hasteley, Paul J. Mathis, Majors E. V. Harbeck, Don McNeal, Edward M. Morris, Carl W. Pyle, Cpts. Charles F. Born and James B. Burwell.

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NO
SMOKING

HE'S COMING DOWN IN A LINK TRAINER."